

BB-01A

BIG BANG

The Mostly Illustrated RPG Guide
to Modern Weapons



Designed for use with all roleplaying
game systems.



Special Edition 1.5

BIG BANG

THE MOSTLY ILLUSTRATED RPG GUIDE TO FIREARMS SPECIAL EDITION REVISED

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WELCOME TO BIG BANG

Welcome to Special Edition Volume 1.5. This special edition wasn't even on the schedule a month ago. Of course, barely over a month ago, we weren't even at war with Iraq. Then again, it wasn't actually a war, since there was no formal declaration of war. While right now, the entire situation was referred to as Operation: Iraqi Freedom, I wouldn't be surprised if 100 years from now, it is listed in the history books as the Second American-Iraqi War.

Anyway, this particular book details the weapons most commonly used by the major military forces involved in Iraq; the Iraqi Army, the US Army and US Marines, and the British military. We did leave out a few things one might expect to have been common. The US Army's M9 Service Pistol is omitted. While present, odds are that not a single one was fired during the conflict. Same with the Javelin missile launcher. Yes, we saw 2 Javelin missiles launched on one Saturday night during a fully televised four hour skirmish on the outskirts of the border port of Um Qasr. But those two launches cost the US government on the order of \$60,000. Guided missiles are expensive. On the flip side, those Marines, had they used their SMAW rocket launcher, could have dumped close to 50 SMAW HEDP rockets into the battle for the same cost. With all the cost cutting and joint projects the military is engaged in, I'm sure that platoon leader will end up catching hell for using those Javelin missiles.

Since war with Iraq can't be complete without the threat of suddenly dying on your back, painfully twitching

like a cockroach blasted with pesticide, we also provide you an small array of chemical weapons known to have been manufactured for the Iraqi arsenals at one time or another in the last 20 years, along with proper rules to accurately portray them, since the brief mention of Sarin in the D20 Modern Roleplaying Game exhibits a lack of even remotely competent research. Sarin, for example, need not be inhaled to have its effect; it can be absorbed through the skin like all nerve agents (just look at how nicotine patches work), with equally potent effects to inhalation or ingestion. It also doesn't affect your health. It attacks your nervous system. It destroys motor control and produces convulsions which can be strong enough to break your bones. You piss your pants, no matter what your mother said about clean underwear. It normally ends with the failure of one or more autonomous nervous functions, namely the end of your heart's beating or your lungs breathing, and you proceed to die from asphyxiation in a matter of minutes. If you want to witness your death by sarin in miniature, buy a can of raid, find a big bug, and spray it until it flips over on its back and dies a twitching death. So somebody, please tell me what the hell any of that has to do with losing CON?!!!!!!

Anyway, we prepared a listing of just a handful of the hundreds of chemical and biological weapons produced in the last hundred or so years.

Well, I'm not going to take up too much of your time with me yapping away here in the intro. On to the game material!

ABOUT THE REVISIONS

Well, as you can see, this is a revised edition of the Special Edition of Big Bang. Covering the second American war against Iraq, there were just a few short weeks in which to decide to produce this volume, research it, write it, and set up the layout. Considering that the final decision to produce the book wasn't made until we witnessed the live broadcast of a four hour battle on the outskirts of Um Qasr two weeks into the war, we really had very little time at all. The book was cobbled together in under 10 days. Many errors and omissions made it into the book, as well as a need to make formatting changes to allow hole punching. This revision fixes these problems.

The first fix is the addition of a wide range of weapons. We've added the 6 new U.S. weapons, 4 new British weapons, and 4 Australian weapons.

The second fix is a lot of editing. Layout needed revision for hole punching. Headers needed some extensive repairs, and there were a lot of errors on the statistics tables, thanks to copying templates from one weapon to the next. The biggest example of this that stood out was labeling the M-16A2 stats for the D20 Modern Roleplaying Game as Milan ATGM stats. The reason this stands out so much here in the office is due to the fact that we thought we had corrected that one, but it still ended up in the final copy! o_O

The last change is some missing rules regarding anti-armor weaponry. While the D20 Modern Roleplaying Game takes good first steps in regards to this, not all AT weapons are created equal. In a Bullet Points article on the WOTC website, Charles Ryan suggests all AT weapons negate 10 points of hardness. I'm sorry, but I don't agree with this at all. It suggests that all anti-armor weapons are essentially created equal. I'm sorry, but a WW2 vintage PIAT that penetrates less than 100 mm of armor is not equal to a Milan-3 that penetrates 880 mm of armor. Additionally, the very rules presented in the D20 Modern Roleplaying Game are self-contradicting; it says the M72 LAW ignored 10 points of hardness, but according to the physics, the LAW uses HEAT technology to cut through armor with a jet of superheated plasma. And this plasma jet, in turn, should be designed as an energy attack, which by the rules should only do half damage against a vehicle. So we've got some new rules thought out that fix all of that.

Anyway, as you can see, this is one case where a revision isn't just a convenience of trying to fulfill an author's sense of perfectionism, but an actual necessity to clean up a product that was rushed out the door in a ridiculously short period of time. Well, at least you're getting more than a dozen new weapons out of our sloppiness!

ANTI-AIRCRAFT WEAPONRY

One important thing about today's anti-aircraft weaponry is the fact that machines do most of the work. The skills involved with these weapon systems, for the most part, involve preparing munitions, maintaining the weapon system, and overseeing the computer-based operations of the weapon. With a stinger, for instance, there is no real skill in firing the weapon; the soldier using the weapon simply points the launch system in the general vicinity of the target, activates the targeting system, and waits for the weapon to signal that it has acquired its target and is ready to fire. One trigger pull later, the missile launches, and the soldier essentially has nothing to do other than watching the missile streak toward the intended target. The skill for the weapon comes in the form of knowledge on assembling, breaking down, and properly transporting the launcher, minor troubleshooting when there are problems, and the proper assembly, activation, and loading of ammunition. Hell, the man firing the stinger isn't even called a soldier; he's an operator! To that end, when it comes to attacking aircraft, the anti-aircraft weapon systems are given both a percentage chance to hit and a percentage chance to kill.

These rules apply only to guided anti-aircraft systems. This includes various missiles and radar-guided guns. The rules do not apply when firing an old-school anti-aircraft machine guns or similar technologies and techniques that existed prior to the advent of radar during World War II. Those old systems are effective skill-based/typical attacks no different than pointing a gun at a man and shooting.

CyberThriller Special Rules: When you fire, roll 1d100 of d% and compare. Exceed this number and the weapon misses. If you roll this number or under, but exceed the second percentage value, the missile strikes and damages the aircraft, but it may continue fighting, or more likely, exits the combat area under its own power. If the roll also meets or is below the second percentage, the aircraft is seriously damaged and must exit the battlefield, though it is more likely to soon fall out of the sky. The pilot can eject safely if needed, however. If the roll is 05 or below, the missile makes a critical strike and damages the aircraft so severely that it simply breaks up into a ball of fire in midair, killing the flight crew.

D20 System Special Rules: When you fire, roll 1d100 of d% and compare. Exceed this number and the weapon misses. If you roll this number or under, but exceed the second percentage value, the missile strikes and damages the aircraft, but it may continue fighting, or more likely, exits the combat area under its own power. If the roll also meets or is below the second percentage, the aircraft is seriously damaged and must exit the battlefield, though it is more likely to soon fall out of the sky. The pilot can eject safely if needed, however. If the roll is 05 or below, the missile makes a critical strike and damages the

aircraft so severely that it simply breaks up into a ball of fire in midair, killing the flight crew.

FUDGE Special Rules: FUDGE doesn't involve percentages. It doesn't even involve ten-sided dice. This requires conversion of percentiles to the FUDGE dice system. Easy enough, build a chart! For FUDGE, we will require two dice rolls; one to see if the missile hits and the second to see if it kills the aircraft. When calculating your modifier to your roll, range has no bearing. In the weapon statistics, the %hit value is placed in the accuracy column and the % kill value is placed in the Damage column.

% hit	FUDGE roll	% kill
01-15	Terrible (-3)	01-10
16-30	Poor (-2)	11-20
31-45	Mediocre (-1)	21-30
46-60	Fair (0)	31-40
61-75	Good (+1)	41-50
76-90	Great (+2)	51-60
91-100	Superb (+3)	61-100

Action! System Special Rules: Like FUDGE, Action! Doesn't make use of D10's or percentiles. The core of the rules are 3d6. So we do the same thing, based on the 16 point range of 3-18. We have even factored in the bell curve. The percentile casualty and kill rates for these weapon systems are converted to a die roll or higher for success. With the Weapon statistics, the Hit % value is placed in Acc column and the Kill % value is placed in the Dmg column.

Hit & Kill %	Action! 3d6 roll
01	18
02-03	17+
04-06	16+
07-11	15+
12-18	14+
19-28	13+
29-40	12+
41-52	11+
53-65	10+
66-75	9+
76-84	8+
85-90	7+
91-94	6+
95-97	5+
98-99	4+
100	3+

ANTI-ARMOR WEAPONRY

As long as there has been armor, someone has tried to create a weapon that will penetrate it easily. Eventually, the gun appeared, rendering the armor on men and horses obsolete, finally vanishing when the Spanish conquistadors retired their steel breastplates in the 1600's. Armor was gone, at least for the next two hundred years. In the era of the American Wild West, armor began to reappear. This time around, what was armored was not men or their steeds, but their transportation. Over a span of more than 30 years, many people and businesses experimented with the concept of armored wagons designed to hopefully prevent robbery. As time passed, the novelty of the horseless carriage evolved into the indispensable convenience of the automobile, and thus the armored car evolved, as both a handmade garage modifications on both sides of the law and as professionally crafted vehicles manufactured for financial service companies, ranging from banks to transportation companies like Wells Fargo. By World War I, even the militaries of the world were investing in armored cars. It was then that the era of the anti-armor weapon began.

Thus the spiral began; a new armored vehicle would appear on the battlefield, and soon thereafter, a rifle capable of piercing its armor. Shortly after that, another new armored vehicle would appear, rendering the latest anti-armor rifle useless. Then came the tank, which changed everything. It suddenly became impossible for one or two men to carry a weapon sufficient to stop an armored vehicle. The guns capable of doing so were simply too large and aside from the use of satchel charges or limpet mines, the tank became the sole prey of other tanks.

This situation would remain for roughly 20 years. Things changed during World War II when both the Germans and the Allies introduced anti-tank rockets. The Germans had the panzerfaust, the Americans had the bazooka, and the British had the PIAT. Suddenly, the average infantryman could possess the power to disable or destroy an enemy tank. Since then, the struggle has continued. Those early rockets were capable of blasting a gaping hole through 50 – 75 millimeters of armor. Today's man-portable anti-tank rockets, many of which are so technologically advanced as to be all but guaranteed to hit their targets, can blast a gaping hole through nearly a full meter of armor. But at the same time, the vehicles have improved, using all manner of technology, from sloping the armor to using advanced materials and composites. Many of these technologies equate out to 300mm of these materials being the equivalent of 500mm, 600mm or more of the old Rolled Homogenous Armor Steel (RHA) armor plating that was standard for military vehicles until the 1960's and 1970's.

Cyberthriller Rules

CyberThriller uses two statistics to resolve armor penetration. First is a weapon statistic called PEN or Penetration. Meanwhile, vehicles all have an armor rating, which applied individually to each side of the vehicle. If PEN exceeds the armor rating, the armor is penetrated and the weapon's damage is applied to the vehicle and crew as appropriate. If PEN does not exceed the vehicle's armor rating, it explodes outside the vehicle, causing no damage but reducing the vehicle's armor rating on that side by 1D6 points. PEN is calculated as 1 point per 50mm of penetration

the weapon is capable of. Damage is calculated as 1D10 per 3 points of PEN.

D20 System Rules

The D20 Modern Roleplaying Game begins with a good idea, but with the worst possible implementation. Of course, the good idea wasn't anything new; countless other games over the last 20 years have used the mechanism of damage reducing armor. To me, the flaw of the D20 Modern Roleplaying Game is the lack of consideration for the fact that there are multiple different technologies capable of penetrating armor and even if two weapon use the same technologies, they may not be created equal. While an M72 LAW, capable of penetrating up to 300 mm of rolled homogenous armor (RHA), ignores 10 points of hardness under D20 Modern rules, a Milan-3, capable of penetrating up to 880 mm of armor with the same type HEAT technology, shouldn't ignore just a mere 10 points of hardness. After all, it easily penetrates almost three times as much armor. So, do we have it cause three times the damage, or ignore three times the hardness?

We want to keep things simple. And if I learned one thing from games like Cyberpunk 2020, the WEG version of Star Wars, and the WOD system from White Wolf, it is the fact that dice rolling isn't simple. It slows the games down. So the last thing we want to do is three times the damage. Do you want to roll 30d6 damage every time a Milan-3 hits its mark? I didn't think so. So what we'll do is revise the rules for determining how much hardness the weapon ignores. It's easy. For every 50 mm of penetration (or portion thereof) listed in the real world data equates to ignoring 1 point of hardness. With the M72 LAW penetrating 300 mm of armor, it now ignores only 6 points of hardness, making it a bit less effective. Meanwhile, the Milan-3 will ignore a whopping 18 points of hardness according to this rule.

We're not done yet. Now we need to account for damage. As listed, the M72 LAW does 10d6 damage, a bit heavy handed for such a wimpy weapon. The big question I had was if 10d6 is the maximum damage under the D20 framework, as was established in AD&D 2nd Edition. Fortunately, the answer is no. However, at this point, we need to begin differentiating between the various types of anti-armor techniques there are. This means "Bullet Types" for these weapons, which is a concept we will stick with for all the game systems involved. However, I'll set that aside for now and go back the D20. For civilian vehicles, the listed hardness is fine. However, for military vehicles, they are entirely insufficient. Let me show you how.

Charles Ryan, in one of his Bullet Points columns, detailed use of anti-tank rockets and missiles against an M1A1 Abrams, namely an M72 LAW and a BGM-71D TOW-II. The M72 was given 10d6 damage and ignored 10 hardness. The TOW-II provides 20d6 damage and ignores 10 hardness. With this, the M72 will do 25 points of damage to an Abrams on an average roll and the TOW-II will do 60 points of damage on an average roll. However, the M72 only penetrates 300mm of armor, and the TOW-II, capable of defeating and incapacitating any armored vehicle on the ground, is rated to penetrate about 950mm of armor, well over three times as much. By these revised rules we present here, the M72 does 7d6 damage and ignores 6 hardness. The TOW-II will do 15d6 damage and ignore 19 hardness.

With an average roll, the M72 will cause a mere 11 points of damage to an Abrams, while the TOW-II will come close to crippling an Abrams by doing 52 points of damage. The TOW-II will do 89 points of damage to an Abrams with maximum damage, sufficient to result in the catastrophic kill of any military vehicle on the planet. At Maximum damage, an M72 will only cause 28 points of damage. By existing D20 Modern Roleplaying Game rules, an Abrams will be killed by an average of 3 LAW hits or 2 TOW-II hits. By these revisions, it now requires an average of 6 LAW hits or 2 TOW-II hits. Now things are in ratio with their ability to penetrate armor.

The D20 revision rules are as follows: D20 System Special Rules: For every 50mm or portion thereof of penetration that a HEAT weapon is rated for, It ignores 1 point of hardness. Additionally, for every 75mm of penetration or portion thereof, the weapon does 1d6 damage. Once you have the figured out, add +2d6 to the total. Finally, there is a blast radius of 5 feet for every 3 points of hardness the weapon ignores. With an M72 LAW and its 330mm of penetration, the weapon is revised to ignoring 7 points of hardness, 6d6 damage, and a 10 foot blast radius. Meanwhile, a Milan-3, which penetrates 880mm of armor, ignores 18 points of hardness, does 13d6 damage, and has a blast radius of 30 feet. The capacity to ignore hardness will be labeled as PEN, matching up with everything else.

FUDGE Rules

As it stands, FUDGE does not have any official vehicle rules in print with any of the licensed publishers. I will have to eventually publish a short FUDGE sourcebook to deal with this unfortunate situation. However, let's set up a framework for this now. Anti-armor weapons will have their ability to penetrate armor rated on a 7 point scale that matches the FUDGE scale. Vehicles will have their armor rated on the same scale. If the weapon's ability to penetrate armor is equal to or above the vehicle's armor, penetration occurs and damage applies within. There is no roll involved with determining this.

Weapon's Penetration in mm.	FUDGE value	Vehicle's Armor Thickness in mm
1-100	Terrible (-3)	1-100
101-250	Poor (-2)	101-250
251-400	Mediocre (-1)	251-400
401-550	Fair (0)	401-550
551-700	Good (+1)	551-700
701-800	Great (+2)	701-800
801+	Superb (+3)	801+

Action! Rules

The Action! System is a young game system, barely out of its infancy and clearly at a stage where it will be going through growing pains for some time to come. While there is no detail provided for dealing with vehicles, there is enough provided to build what we need. Under the section Inanimate Objects, the rules provide an AV and hits for vehicles and materials. Unfortunately, there are some discrepancies. They list AV 60 for the frontal armor of a generic tank. A WW2-era Panzer IV, going by the materials values, would have better than AV 130. To just circumvent that, a weapon would need to roll an average roll on 37d6 or maximum damage on 22d6. Even for the generic tank with an AV of 60, that's an average die roll for 18d6 or a maximum die roll for 10d6. Too many dice and that's just for the inferior technology of 1940!! Can you imagine the sort of dice-rolling that would be required for today's weapons?

What we'll do is a bit of modification of the system and take a huge step away from all those dice. First, we'll provide an AV for RHA, Chobams, and Dura-aluminum armors, all now common on the modern battlefield. Now, getting back to the weapon, converting them will be easily accomplished. Take their penetration value and multiply by 3.5. Now, covert to Mega Scale by dividing the value by 10 . The scaling rules are an option provided on the Action! System website at www.action-system.com. This gives you the amount of damage they will do in order to penetrate the appropriate depth of RHA steel armor plating. Now, for every 5 points of penetration in Mega scale, the warhead will do 1d6 damage in normal scale. Now and make the results a bonus to 10d6 damage. This bonus only applies when striking an armored target, be it a man in a suit of plate mail or an M1A1 Abrams tank. For vehicles, once you calculate the AV, divide the value by 10 to convert to Mega Scale. Damage will be details as Normal(Mega Scale) {ex. 10d6(50)}. The Mega scale damage applies only for penetrating vehicle or building armor, while the normal damage applies to everything else.

Armor Material	AV per mm
Aluminum Alloy	1.4
Dura-Aluminum	2.2
Anti-ballistic Plexiglass	1.2
Lexan "plexiglass"	1.7
Steel, Mild	1.8
Steel, RHA	3.5
Steel, Tempered	2.6
Chobham Composite	4.5

ANTI-ARMOR WEAPON TYPES

HEAT

HEAT stands for High Explosive Anti-Tank. These anti-armor weapons, which comprise one of the two primary anti-armor technologies, relies on chemical energy to accomplish its goal. Either on or microseconds prior to impact, an explosive charge detonates in alignment with a thin, cone-shaped structure which is made of copper or another metal of relatively low melting point. This cone, in the process of being melted and propelled by the detonation, both focuses the explosion and becomes the material used to generate the plasma jet that is the core of this technology. This plasma jet strikes the armor with both a high speed in excess of 30,000 feet per second (more than 30 times the speed of sound) and a high temperature (often in excess of 3,000 degrees Centigrade). This not only cuts and burns a hole through the armor, but it also propels fragments and superheated, liquefied droplets of the armor (called spall) around the inside of the vehicle. This is the primary cause of damage inside the vehicle. Fragments shred anything inside that can be shredded, and the droplets burn or melt anything that can be melted, leading to fires and even ammunition misfires or explosions inside the vehicle. This is the primary anti-armor technique for virtually all anti-armor rockets and missiles.

This technology is defeated to an extent by anti-spall shields. Originally, these were small multi-layer tarps of Kevlar fabric that was stretched and mounted along the walls of the crew compartment, designed to catch the spall and fragments before they could cause significant damage. These were effective to an extent, but the blast could penetrate the Kevlar as easily as it could the armor, producing an opening through which the damage-causing elements of the strike can still enter.

Once this Kevlar shielding was proven a failure, most vehicles did away with them, instead turning to alternative armor technologies, like explosive reactive armor. A few vehicles turned to bolt-in interior composite plates composed of ceramics, carbon fiber, silica, epoxy laminates and wrapped in several laminated layers of Kevlar sheeting. The idea is that the internal components of this plating can withstand the heat of a HEAT round, but cannot withstand kinetic impact. One side of the Kevlar would burn away, kinetic penetrator but not fragmentation will penetrate the plating, and kinetic penetrators will shatter the internal components of the plating, which would be held in the bag-like remaining structure of the Kevlar without releasing much in the way of fragments of spall.

Explosive reactive armor is a system of thick plates of armor bolted to the outer hull and superstructure of a military armored vehicle. These plates are not solid, but hollow and filled with explosive material. When a HEAT round cuts into the plate, the plate explodes, disrupting the plasma jet that would otherwise cut through the main armor of the vehicle. The plates are relatively small at 12 to 18 inches square, so the odds of two anti-armor weapons striking the same one in one battle tends to be rather slim.

HEDP

These are High Explosive, Dual Purpose munitions. Typically designed with a partially focused explosive core, they are wrapped in an easily fragmenting shell. Upon detonation, these munitions generate a sphere of shrapnel

radiating in all directions, as well as a blast capable of penetrating a rather low level of armor, rarely more than 350mm. This technology is mainly dedicated to grenade technologies, providing every infantryman the capacity to kill five or ten enemy soldiers with one grenade, or disabling a thin skinned or lightly armored vehicle with the same grenade.

KES

KES is the abbreviation for Kinetic Energy System. You know it better as Armor-Piercing technology. These systems, restricted mainly to guns, rely on brute force to drive a dense, thin penetration device through the armor. This technology is only now beginning to be applied to missile technologies, with only one active KES-based weapon system serving with any military in the world (The MGM-166 LOSAT/KEM, 108 active with the U.S. Army, with 12 HMMWV modified into the M1114 launch system).

The penetrator, usually of tungsten or depleted uranium, impact the armor at such high velocity that they will create a gaping dent the armor all the way through the armor as the penetrator melts and deforms, forcing its way through the armor and into the vehicle's interior. The effects from that point vary depending upon the type of KES weapon used. The weakest don't penetrate armor, but fracture it instead, resulting in the inner surface of the vehicle fragmenting and spraying shrapnel throughout the vehicle. As they become more powerful they cause the same interior fragmentation, but also penetrate the armor and enter the interior as well, where it will ricochet around the interior, perhaps hundreds of times, destroying both crew and equipment. Those more powerful still actually can penetrate the armor on one side and blast partly, if not complete, out the other side of the armor. These ones create a pressure wave inside the vehicle that can blow open hatches, rupture compartments, and if powerful enough, even pop a turret off its mountings on a tank. The most powerful KES weapons are hypervelocity weapons. This is where the missile technology comes into play. The penetrator will strike the target vehicle at velocities that can exceed one mile per second (@ Mach 5). The impact is so great that armor in excess of 500mm thick will crumple like a sheet of paper and rivets, bolt, and welds on the vehicle will fracture and produce a vast quantity of shrapnel inside the vehicle. Tracks, side skirts, and road wheels end up flying off in every direction. The penetrator finally cuts through the opposite side of the vehicle, nearly cutting the entire hull in half. A turret strike will shear the turret off a tank as easily as newspaper tears, the turret crumpling in on itself, tearing, and flying tens of meters through the air, leaving a debris trail between it and the tank hull. Even a tank's main gun can tear free from the turret under these forces, tumbling off in another direction.

As mentioned, this includes such weapons as the LOSAT/KEM Hypervelocity Missile, as well as APDS and APFSDS anti-tank rounds, and armor-piercing munitions for smaller weapons like chainguns and autocannons.

Fire

No, this is not a new type of anti-armor technology, but instead one of the oldest weapons known to man. During the Second American-Iraq War, a number of M1A1 Abrams were lost to fire. One tank struck a tree, rupturing a Flexcell



Anti-Armor Weaponry

Extended Range External Mount Fuel Bladder mounted on the turret's bustle racks. Fuel leaked through the engine compartment venting and burned up the turbine. Another tank suffered the same fate, instead caused by a Molotov

cocktail, rather than a ruptured external fuel bladder. Fire can be as deadly to an armored vehicle as the most powerful ATGM.

IRAQI BIOCHEMICAL WEAPONS

Iraq, for decades, possessed an extensive program for the research, development, production, and stockpiling of the poor man's nuclear weapon, chemical and biological agents. Since the defeat of Iraq in 1991, there has been extensive effort by the United Nation to rid the nation of Iraq of these weapons of mass destruction. Those efforts reached a final crescendo with Operation: Iraqi Freedom, which deposed the 24-year regime of the tyrant Saddam Hussein and provided US forces open access to the nation to hunt for chemical weapons and other weapons banned under U.N. sanctions. The Iraqi biochemical weapons programs came about in 1981, after the Israeli bombing of a nuclear power plant Iraq had obtained with French help. That facility was suspected to be the core of the growing Iraqi nuclear weapons program; a breeder reactor that could produce weapons grade plutonium.

The era of modern chemical warfare began during the War to End All Wars. On April 15, 1915, near the Belgian village of Ypres, German troops released 160 tons of chlorine gas from 6,000 pressurized cylinders in two separate action over the course of three days. Over the course of those three days, 10,000 Allied troops were killed and another 15,000 were injured by the chemical attacks. The heavier-than-air nature of chlorine gas was especially deadly in this period of trench warfare; the vapor would roll along the ground and collect and pool in the lowest depressions, especially the trenches. Later that year, phosgene, ten times deadlier than chlorine, and in 1917, mustard gas was added to the arsenals. Overall, over 110,000 tons of these chemical weapons were used during World War One, killing about 92,000 people and creating a total of 1.3 million casualties. However, while this modern era of chemical warfare began in 1915, the use of chemical weapons is truly ancient. During the fifth century BC, the Spartans used sulfur fumes to incapacitate some enemy troops before engaging in battle. History is also filled with incidents of biological warfare, primarily the use of diseased and rotting corpses to spread plague inside besieged population centers or to poison water supplies.

After the War, in 1928, 38 nations signed the Geneva Protocol, a simple document meant to ban chemical and biological weapons. It was a rather vague document that prohibited the use of chemical weapons, but not the manufacturing, stockpiling of, or threat of these weapons. Since then, a total of 130 nations have signed the protocol. Japan, Iraq, and Italy were early signatories of the protocol that went on to engage in chemical or biological warfare after signing. In the period between world wars, the use of chemical weapons did not fall to the wayside. In 1920, the British "experimented" by using chemical weapons against Kurdish rebels, with the blessing of Winston Churchill. In 1935 saw the Italian invasion of Ethiopia, where the Italians made use of mustard gas. In 1936 brought the Japanese invasion of China and their use of chemical weapons.

With World War II, there was no battlefield use of chemical weapons. However, the Germans made incredible advances in the research of chemical weapons, including the development of tabun, sarin, soman, and at least a half dozen other chemical weapons. Meanwhile, the Japanese experimented extensively with biological weapons, employing over 3,000 people in the projects as part of Unit 731. Individual experimentation killed 3000 Allied POWs alone, and the Japanese launched massive experiments as simulated attacks on 11 Chinese cities, using anthrax, cholera, salmonella, bubonic plague and other agents, but concluded these attacks were ineffective, though they killed tens of thousands of innocent civilians. One such incident went awry, killing 1,700 Japanese troops in the city of Changteh. The British experimented with anthrax on Gruinard Island, contaminating the island so thoroughly, that to this day, even after soaking the entire island in over a million gallons of formaldehyde, is still considered contaminated to a hazardous level.

With the Cold War, biochemical weapons became rather insidious. In 1950, the use of a US Army bacterial agent in San Francisco resulted in a disease outbreak. In 1951, The Army used

Virginia to test fungal biological weapons that attacked specific races (in this instance, the fungal weapon targeted and infected Americans of African descent). In 1966, the Army conducted a biological warfare experiment in the New York City subway system. Only after the 1969 accidental killing of over six thousand of sheep in Utah with the chemical weapon VX does the President of the United States finally impose a ban on chemical weapon production and biological weapon possession. In 1972, the CIA may have used a biological agent to kill over 500,000 swine in Cuba, possibly part of a CIA biowarfare department exposed by a Washington Post story in 1979. In 1979, also saw an accident at a Soviet chemical weapons plant killed at least 66 people via anthrax infection, though it did nothing to even slow the Soviet biochemical weapons programs. And in 1975, Indonesia annexed East Timor, promptly spraying herbicides on cropland in the region via aircraft as a means of quelling the angry population.

The 1980's were busy for biochemical warfare. There were claims of Communist use of chemical weapons in Laos, Cambodia, and Afghanistan. None of these claims panned out. However, other claims did. In 1980, Iraq started a war with Iran, over land located west of the Euphrates River. The war eventually degenerated to a war of attrition. On the Iraqi side, there was only a regular army to fight a war using traditional military tactics. On the Iranian side, the regular army was quickly decimated to the point that Iran eventually turned to the use of "human wave" attacks, utilizing a volunteer force of religiously motivated troops and conscripts seeking martyrdom through their own deaths in battle. With a smaller army and population, Iraq was left with the only choices of capitulation or retaliation with weapons capable of inflicting massive casualties compared to conventional weapons, beginning in 1984. Despite the use of hundreds of tons of deadly substances, Iraq only managed to arrange a cease-fire with Iran in August, 1988, rather than accomplishing an overall victory in the war they started. Also in 1988, Iraq gassed dozens of Kurdish villages in northern Iraq to quell uprisings. Officially, the death toll is listed at 5,000 for the area of Halabjah; with dozens of villages attacked, the actual death toll likely numbered at least ten times that. In 1991 brought with it the Gulf War. Some 28 alleged biochemical weapons sites were bombed during the air war. One site burned in green flames, indicating a chemical fire. At another, 50 Iraqi soldiers died within a week after the facility they guarded was bombed. Czech chemical warfare units detected sarin in the atmosphere on several occasions during the air war. Egyptian doctors reported the outbreak of strange diseases inside Iraq. And after the war, Allied Gulf War veterans begin developing medical problems involving a variety of symptoms, collectively called Gulf War Syndrome.

Of course, during the last 90 years, it wasn't just governments that made use of chemical weapons. In 1984, an explosion at a fertilizer plant owned by Union Carbide in Bhopal, India, killed 2000 people and injured tens of thousands more, exposing the risk posed by chemical plants located in war zones. In 1978, Jimmy Jones killed himself and some 900 of his followers with a mass suicide by cyanide spiked koolaid punch. In 1984, the Rajneeshee religious cult contaminated restaurant salad bars across Oregon with Salmonella, causing 751 cases of enteritis, 45 of which required hospitalization. In 1993, the cyanide compound with the bomb in the garage of the World Trade Center was fortunately incinerated in the explosion, otherwise tens of thousands could have been sickened or killed. And in 1995, the religious cult Aum Shinrikyo released Sarin gas in the Tokyo's subway system, killing twelve and sickening 5,000. This incident countered the Army's NYC subway experiment, and the cult was found to be working with an array of biochemical weapons. In 1997, as many as 100 members of the cult Heaven's Gate committed suicide with the passing of the comet Hale -Bopp. And in 2001, unknown parties used the US postal system to distribute anthrax, killing or sickening less than 20 people in the process.

BIOCHEMICAL AGENTS

Anthrax - *Bacillus anthracis* - Bacterial Agent

Symptoms: Inhaled anthrax -- lung problems, terminal shock. Skin anthrax -- lesions, blood poisoning.

Outcome: Death, if untreated. Not contagious.

Status: Iraq claims production of 2,200 gallons. U.N. unable to verify present status.

Anthrax has become famous in recent years due to its connection to biological warfare and its potential use by terrorists, especially after the anthrax mailing in October, 2001. Anthrax has a long history as a weapon of mass destruction, being deemed a suitable biological agent due to the variety of ways through which it can be distributed and the extreme hardness of its spores. Anthrax naturally normally affects herbivorous animals such as sheep and cattle so cases due occur naturally among those involved in this industry. In cattle the symptoms are staggering and convulsions and then death within a few days. Human infection via bioweapon occurs when spores make contact with exposed skin or enter the lungs as airborne particles, however, accidental infection can also occur by eating infected meat. Skin Anthrax and intestinal anthrax (from eating infected meat) have a mortality rate of 30 -60% if left untreated, inhalation of anthrax spores has a much higher mortality rate if left untreated with around 90% of victims dying.

Each type of infection has different symptoms. Skin or cutaneous Anthrax appears as a large pus filled blister and possible inflammation of the lymph glands. Intestinal Anthrax brings on painful stomach cramps, acute inflammation of the intestinal tract and finally vomiting of blood and severe diarrhoea. Inhalation Anthrax which has the highest mortality rate has initial symptoms similar to that of the common cold followed by breathing problems and then shock.

Immunization is effective and the US began immunizing military staff in 1998. the vaccine is made up of a dead form of the bacteria and is given in three injections two weeks apart followed by boosters every 6 months for the first 18 months. Side effects are rare. The disease can be treated with antibiotics if caught in the early stages which is of course is very difficult for the inhalation infection due to the early symptoms.

Anthrax gained much of its fame after British experiments in 1942. Test anthrax bombs were dropped on the Scottish island of Gruinard. The spores were so resilient that in 1986, over 40 years later, the spores were still active and the island was decontaminated with hundreds of thousands of litres of Formaldehyde. The large scale use of Anthrax as a terror weapon by low tech terrorists is unlikely as although it has been used against media organisations throughout the world via mail deliveries this is far from an effective delivery method mostly resulting in easy to treat skin Anthrax cases. As with most biological weapons it is not production of the biological agent that is the problem for the terrorist but the development of an effective method of delivery in particular for an airborne agent.

D20 Modern Rules: Anthrax infection will take two forms; either cutaneous anthrax or inhalation anthrax.

With cutaneous anthrax, the infection comes quickly, forming painless blackened necrotizing lesions surrounded by moderate to severe edema. Generally, they occur at the sight of a wound of some sort in the skin surface and spread from that point. Untreated, it can lead to septicemia and death, but this is rare; occurring in no more than 20% of the cases. In D20, the lesions should start appearing 1-2 days after infection. A week after the lesions appear, the area they are on should be considered useless as bleeding starts and the infection gets into the blood. At that point, the disease should weaken the character by 1 point each of STR and CON. This loss cannot be recovered until the disease is treated by antibiotics. Death occurs when either reaches 0. Upon being cured, the lost STR and CON will each return at a rate of 2 points per day. Affliction by cutaneous anthrax can be avoided by a fortitude save vs DC 17.

With Inhalation anthrax, the process is far more insidious and works far faster. The illness will incubate for up to six days before cold symptoms occur. At this point, the character begins losing CON at a rate of 1 point per day. After a week, the illness becomes pneumonic in nature as the victim's lungs begin filling with spores and congested fluids. At this point, the victim worsens drastically, losing CON at a rate of 3 points per day. At this point, the infection is no longer treatable and the character will die once CON reaches 0. The infection can be stopped during the "cold" stage by taking antibiotics. It is also common to take antibiotics on a prophylactic basis if some you have contact with has been discovered to be infected, even if you do not have any symptoms. Antibiotics need to be taken for as long as 60 days before the spores have been entirely killed off within the lungs. Affliction of inhalation anthrax can be avoided by a fortitude save vs DC 24.

Botulinum - *Clostridium botulinum* - Bacterial Toxin

Symptoms: Ptosis, generalized weakness, dizziness, dry mouth and throat, blurred vision and diplopia, dysarthria, dysphonia, and dysphagia are followed by symmetrical descending flaccid paralysis and the development of respiratory failure. Symptoms may begin as early as 12-36 hours following ingestion or inhalation, but may require as long as several days in some cases.

Outcome: Death, if untreated. Not contagious.

Status: Iraq claims production of 5,000 gallons. U.N. unable to verify present status.

Botulinum toxins are a group of seven related neurotoxins (types A-G) produced by the anaerobic bacterium, *Clostridium botulinum*. They are typically formed in canned foods and subsequently ingested, although the spore form of the organism may occasionally gain access to the body through wounds or through the GI tract before germinating and producing toxin. Intentional release by belligerents or terrorists would likely involve aerosolization of pre-formed toxin, which could then produce disease via the inhalational route. Deliberate contamination of food supplies is also possible. Botulinum toxins act by blocking acetylcholine release at the neuromuscular junction, and in the central and peripheral nervous systems. In the face of large numbers of casualties and/or in the absence of prompt, intensive, and long-term medical management, botulism can be thought of as a lethal agent.

The diagnosis of botulism is made clinically, as there are no specific laboratory findings, and a limited differential diagnosis. Assays for these toxins are not widely available. Intentional release should be suspected if numerous co-located casualties present with progressive descending bulbar, muscular, and respiratory weakness. Decontamination of surfaces contaminated by toxin may be accomplished using soap and water, or 0.5% hypochlorite. Spores are best killed by pressure-cooking of foodstuffs to be canned. Toxin is not dermally active (although spores may enter through skin wounds) and secondary aerosols from affected patients pose no risk of botulism transmission. Intentionally-released aerosols of botulinum toxin probably pose little risk beyond the immediate period of release. In the event that contamination of foodstuffs is suspected, pre-formed toxin may be destroyed by boiling for 10 minutes.

D20 Modern Rules: Botulinum acts as a neurotoxin. Starting 12 to 36 hours after affliction, the toxin begins taking its toll on the character's nervous system. The character will lose 1 point of DEX every 8 hours until death by respiratory failure. Additionally, CON and STR will be lost at a rate of 1 point per day. The toxin can be neutralized by taking an antitoxin made for horses. If the character loses more than 1/2 DEX before the antitoxin is administered, there will be permanent damage. DEX, STR and CON will return at a rate of 1 point per week. If more than 1/2 DEX was lost, then the character will permanently lose 1 point each from DEX, CON, and

Biological & Chemical Weapons

STR. Those who suffered from the poison for a prolonged period tend to suffer from weakness and shortness of breath that lasts for years. Affliction can be avoided by a fortitude save vs DC 20.

Cholera - *Vibrio cholerae* - Bacterial Agent

Symptoms: The incubation period is 1-5 days; while a large number of infected persons remain asymptomatic, the "classic" form of cholera is noteworthy for its severity and sudden onset. Vomiting, abdominal distention and pain with little or no fever are followed rapidly by a profuse, watery diarrhea with a "rice-water" appearance. Fluid losses may readily exceed 10 liters per day.

Outcome: Without treatment, death may result from severe dehydration, hypovolemia and shock.

Status: This was not a bioweapon developed as part of the Iraqi biological weapons programs.

Cholera is an infection caused by the bacterium *Vibrio cholerae*, and acquired through the ingestion of contaminated water or food. The disease manifests as a watery (secretory) diarrhea so profuse that supplies of IV fluids are often exhausted during epidemics. Intentional use by belligerents or terrorist groups would presumably involve the contamination of food or water sources. Cholera is incapacitating, but in the face of large numbers of casualties, and the breakdown in medical care often associated with war, a large number of deaths are possible.

The diagnosis is typically made clinically on the basis of profound watery diarrhea and consequent dehydration. Microscopic exam of stool samples reveals few or no red or white cells. The organism may be identified in stool by darkfield or phase contrast microscopy, and grows on a variety of culture media.

For treatment, the mainstay of therapy is fluid and electrolyte replacement. This may be accomplished through the use of oral rehydration salts or diluted Gatorade in less severe cases, whereas IV fluids are often required in cases of severe dehydration. Antibiotics shorten the duration of diarrhea and thereby decrease fluid loss.

Strict attention must be paid to the avoidance of contaminated water in an outbreak area. Drinking water, as well as water used in bathing, washing utensils, and cooking, must be obtained from a safe source or must be boiled or chlorinated prior to use.

D20 Modern Rules: For 1 in 20 people, cholera displays its symptoms. In these instances, death can occur within hours due to the rate of dehydration. The character will lose 1 point of constitution every 2 hours until death. Following therapy with fluids and electrolytes will effectively neutralize these losses, but ties the character to a medical facility for the duration, as the illness will take 1-2 weeks to run its course and recover. Antibiotics will reduce this recovery time by half, but are unimportant compared to the need to keep the patient hydrated. Affliction can be avoided by a fortitude save vs DC 15.

Ricin - *Ricinus communis* - Plant Toxin

Symptoms: Fever, severe respiratory distress.

Outcome: Death, if untreated. Not contagious.

Status: Iraq claims production of three gallons. U.N. unable to verify present status.

Ricin is a protein toxin which acts as a cellular poison and is readily produced from castor beans, which are ubiquitous throughout the world. Waste from the commercial production of castor oil contains 5% ricin, making it easy for such a substance to fall into the hands of bioterrorists. Naturally-occurring cases of ricin involve ingestion of castor beans, and are marked by severe gastrointestinal symptoms, vascular collapse, and death. As ricin is toxic by numerous exposure routes, however, its use by belligerents might involve poisoning of water or foodstuffs, inoculation via ricin-laced projectiles, or aerosolization of liquid ricin or lyophilized powder. When used as an aerosol, cell death in lung tissue and pulmonary capillaries would be expected to lead to pulmonary edema and hypoxic respiratory failure. When inhaled as a small particle aerosol, ricin would likely produce symptoms within 8 hours. Fever, cough, dyspnea, nausea, and chest tightness are followed by

profuse sweating, the development of pulmonary edema, cyanosis, hypotension, and finally respiratory failure and circulatory collapse. Time to death would likely be 36-72 hours, depending on the dose received.

The diagnosis of ricin is largely clinical and should be suspected in a setting of mass casualties with a similar and appropriate clinical picture. Failure to respond to antibiotics helps to differentiate ricin exposure from pulmonary infections produced by bacterial agents. An ELISA exists and may be performed on paired acute and convalescent sera. No specific curative treatment exists, and care is thus supportive. In cases of gastrointestinal exposure, gut decontamination via lavage, activated charcoal, and cathartics is warranted. Large amounts of volume replacement may be necessary. Ricin may be inactivated with 0.5% hypochlorite. Since it is not dermally active and is involatile, decontamination may not be as critical as with certain other biological and chemical agents.

Ricin is most famous for its use as an assassination weapon, rather than as a weapon of mass destruction. Bulgarian dissident Georgi Markov was killed by poison dart filled with ricin and fired from an umbrella in London in 1978.

D20 Modern Rules: Ricin is extremely toxic and no antidote currently exists for it. Its symptoms onset within a matter of hours, causing fever, all manner of gastrointestinal problems, weakness, muscle aches, breathing difficulty, cyanosis (blue skin) and chest pain. Essentially, once poisoned, the character will lose 1 point from STR, CON, or DEX each hour, determined randomly. When one reaches 0, death occurs. There is no known cure for ricin poisoning. Affliction can be avoided by a fortitude save vs DC 24.

Sulfur Mustards - *bis-2-chloroethylsulphide* - Blistering Agent

Symptoms: Skin blistering, damage to air passages.

Outcome: Death possible.

Status: Used from 1983-90 during the Iraq-Iran War. Iraq claims it produced 2,850 tons.

Sulfur Mustards, better known as Mustard gas, is one of the latest generations of one of the oldest of the modern chemical weapons. These agents are not deployed with the intent to injure or kill enemy troops, but as a means of forcing enemy troops to engage safety protocols, thereby forcing them to fight far less efficiently than they would otherwise. In its pure state, it is colorless and nearly odorless, identifiable only by a very faint scent of rotting onions or mustard.

Sulfur mustard attacks the skin, eyes, lungs and gastrointestinal tract, as well as organs dealing with blood, from bone marrow to the liver, the pancreas, and kidneys, causing severe cellular disruption to all of them. Symptoms don't appear until two to twenty-four hours after exposure, so the damage is done by the time symptoms appear. The symptoms of a mild poisoning by sulphur mustard are aching eyes (massive amount of tearing), inflammation of the skin, irritation of the mucus membrane, coughing, sneezing, hoarseness. Overall mild poisonings do not warrant medical treatment. However unlike mild poisonings, exposure to large amounts of sulphur mustard are incapacitating and require immediate medical attention. Such injuries that can occur are loss of sight, nausea, severe respiration difficulty, vomiting, blistering of the skin, and diarrhea. The liquid state of sulphur mustard causes severe injuries whereas exposure to sulphur mustard in the gas state usually gas mild injuries. Depending on the level of exposure to the mustard agents will cause different levels of skin inflammation, ranging from small irritation to a skin necrosis that is so comprehensive that no blisters occur. Once poisoned by sulfur mustard, the damage done and any medical care is directed at treating the symptoms.

D20 Modern Rules: If the result of exposure is mild symptoms, reduce DEX, CON and STR by half for 1d4 days. If exposure results in severe symptoms, reduce DEX, CON and STR by 75% for 3d10 days. Once this period has concluded, the character will lose 1-2 points each from DEX and CON. Affliction can be avoided by a fortitude save vs DC 21.

**Tabun - O-ethyl dimethylamidophosphorylcyanide
- Nerve Agent**

Symptoms: Sweating, shortness of breath, muscle spasm.

Outcome: Death possible.

Status: Used from 1984-87 during the Iraq-Iran War. Iraq claims it produced 210 tons.

Tabun, also known as GA, was developed in 1936 by German scientist Gerard Schraeder as an offshoot of pesticide research. Of all nerve agents, it is the easiest to manufacture. It is almost odorless (smelling very faintly of fruit) and colorless in its pure state. Like the other G agents, tabun is a non-persistent volatile agent. It can be absorbed through inhalation, injection, or the skin, with initial symptoms appearing within seconds and more severe symptoms occurring up to hours later. Lethal dosage occurs at a relatively high quantity compared to other nerve agents.

Upon exposure, the initial symptoms are a running nose, contraction of the pupils, visual accommodation deteriorates, headache, slurred speech, nausea, hallucinations, pronounced chest pains, and an increase in the production of saliva. If the dosage is low, the symptoms will not exceed this level and will not be lethal. At higher doses of a nerve agent the aforementioned symptoms are more pronounced. Coughing and breathing problems also begin to occur. The individual then may begin to go into convulsions and a subsequent comatose and death. At doses even higher an exposed individual would almost immediately go into convulsions and die from suffocation because of the simultaneous shut-down of the nervous and respiratory systems.

Because all nerve agents have a very rapid effect on an individual, if treatment is to work it must occur immediately after exposure or else death is certain to occur. A general antidote to nerve agents is a combination of atropine and a reactivator. Atropine protects against the excess of acetylcholine formed during nerve agent poisoning. The reactivator's job is to restore acetylcholinesterase to its normal functions. The degree of difficulty

in combating the nerve agent depends greatly on what nerve agent is present. The mixture of atropine and the reactivator is injected into an individual using what is known as an auto-injector. The auto-injector consists of the two active components which are injected into an exposed individual through the use of a very long needle. The auto-injector is usually injected into an individual's thigh or another area where the antidote can reach the heart relatively quickly.

D20 Modern Rules: Tabun's initial effects will occur within seconds, and can only be neutralized with an auto-injector.

If exposure is considered low dose, the symptoms will vanish within five minutes of auto-injection, or will persist for up to three weeks with no treatment.

If exposure is moderate, symptoms will also result in breathing difficulty and loss of motor control (-3 DEX) and eventually worsen to convulsions, which will pass after several hours. If not treated, moderate exposure will result in a permanent loss of 1d4 DEX.

If exposure is lethal, symptoms will rapidly degenerate into breathing problems, convulsions, coma, and death. If untreated, the victim will die within the hour. With treatment, the victim will recover in 1d4 days, but will suffer permanent damage, mainly chronic health problems, damaged eyesight, chronic headaches, etc. Effectively, the character will lose 1d4 DEX and 1d3 CON permanently.

If the dosage is superlethal, expect to be dead inside of 10 minutes. The convulsions will be so bad that you break your own bones and you die a gurgling, frothy-mouthed death. Even if someone gets the bright idea of injecting you with a half a dozen doses of atropine, you'll still end up being a drooling, wheelchair-bound wreck of a human being if you happen to survive.

When exposed to Tabun, you get one fortitude save. Your die roll results determine your level of exposure. If you fail to beat DC 17, your dose is superlethal. Failing DC 19 is lethal, failing DC 22 is moderate, and failing DC 25 is mild/low dose.

AL-QUDS MACHINE RIFLE

The Al-Quds is the primary squad automatic weapon for the Iraqi Army, manufactured by Iraq and based alterations to the AKM made for the Yugoslavian-made M72B1 automatic rifle.

While most nations using Soviet arms would normally choose the RPK or RPK-74 as their SAW, a handful of nations instead chose to simply modify the AKM for the purpose. For the Iraqis, this meant taking their own Tabuk assault rifle and modifying that. The Tabuk received a longer, heavier barrel, a 1.4 kg removable bipod, and cooling fins located beneath the gas bottle on the underside of the rifle. The resulting Al-Quds is very similar to the Yugoslavian M-72B1 and the Bulgarian RKKS.

While the Al-Quds can use the 40- and 75-round magazines of the RPK, it is normally encountered with 30-round AKM magazines. The Al-Quds is a relatively recent weapon in Iraqi arsenals, and previously procured RPKs also serve as Squad Automatic Weapons in the Iraqi Army.

Weapon	Al-Quds			
Manufacturer		Year	P2000	
Nation	Iraq			
Caliber	7.62 x 39mm		Mags	30, 40, 75
Accuracy	Group		MOA	
	Kill			
Velocity	775 m/s		Energy	
Weight	Empty	5.0 kg	ROF	SS -
	Loaded			MB -
Length	950mm		Burst	-
Range	Effect.	300 m	Auto	100
	Max.	1500 m	Cyclic	650
Notes	PKS tripod accounts for 1.4 kg of the weight.			



AL-QUDS MACHINE RIFLE

Cyberthriller													
Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
Al-Quds Machine Rifle	AR	-2	T	M	7.62 Bloc	0	30	2 [SS], 5 [A], 30 [C]	VR	300	5.0	5.6	\$1900
Special Rules													

D20 System											
Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction	
Al-Quds Machine Rifle	2d8	20	ballistic	100	S, A	30	Lrg	11 lbs	20	Mil (+3)	
Special Rules											

FUDGE							
Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
Al-Quds Machine Rifle	30	SA, A, C	Mediocre	Mediocre	4	\$1900	
Special Rules							

Action!												
Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes	
Al-Quds Machine Rifle	4d6+2	P/L	-1	-1	3	300	2/30	30	5.6	\$1900		
Special Rules:												

FIM-92 STINGER

The Stinger missile, a full-dimensional protection weapon, is the Army's system for short-range air defense that provides the ground maneuver commander force protection against low-altitude airborne targets such as fixed-wing aircraft, helicopters, unmanned aerial vehicles, and cruise missiles. The Stinger is launched from a number of platforms: Bradley Stinger Fighting Vehicle, Bradley Linebacker, Avenger (HMMWV), and helicopters as well as Man Portable Air Defense (MANPADS). It was deployed in 1982 as a replacement for the aging Redeye SAM used by the Marines, after 15 years of development.

The Stinger is a man-portable, shoulder-fired guided missile system which enables the Marine to

Weapon		FIM-92 Stinger		
Manufacturer	Hughes Missile Systems	Year	1982	
Nation	United States			
Caliber		Mags	105 round belt	
Accuracy	Group		MOA	
	Kill		Pen	
Velocity	Supersonic		Energy	
Weight	Empty	9.8 kg	ROF	SS
	Loaded	15.7 kg		MB
Length	1500 mm		Burst	-
Range	Minimum	1000x50m	Auto	-
	Max.	10 x 3 km	Cyclic	-
Notes				



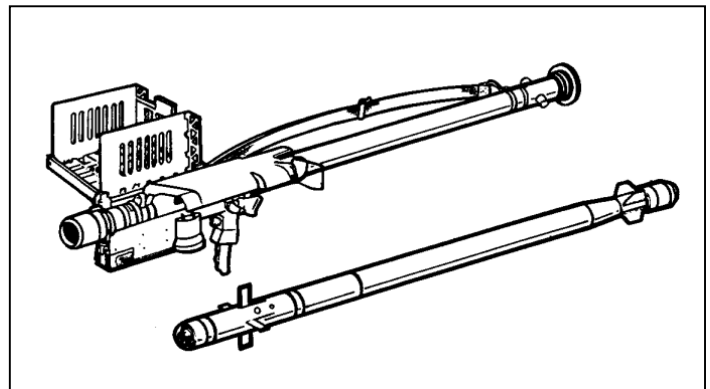
RMP Block I missiles that will remain in the inventory until at least 2014. Stinger-RMP Block II improves both hardware and software, including an advanced imaging focal plane array, roll frequency sensor, new battery, signal processing, and advanced software. There are plans to produce approximately 9,500 Stinger-RMP Block II missiles. Initially, it was planned that these new missiles would begin operational deployment in 2004, but changes in military planning have placed that goal into hiatus at this time.

The Stinger is crew-served heavy weapon, fielded by a team of two, with regulations restricting each man to firing only 2 to 5 missiles in combat. The high rate of fire is accomplished by one man aiming and firing the weapon, while the other prepares the next round for loading.

effectively engage low-altitude jet, propeller-driven and helicopter aircraft. Developed by the United States Army Missile Command, the Stinger was the successor to the Redeye Weapon System. The system is a "fire-and-forget" weapon employing a passive infrared seeker and proportional navigation system. Stinger also is designed for the threat beyond the 1990s, with an all-aspect engagement capability, and IFF (Identification-Friend-or-Foe), improved range and maneuverability, and significant countermeasures immunity. The missile, packaged within its disposable launch tube, is delivered as a certified round, requiring no field testing or direct support maintenance. A separable, reusable gripstock is attached to the round prior to use and may be used again. STINGER will also be employed by the Pedestal-Mounted Stinger Air Defense Vehicle and the Light Armored Vehicle, Air Defense Variant (LAV-AD) during the 1990s.

Since their introduction nearly 20 years ago, Stingers have undergone a series of three upgrades, done to both correct problems that became evident during deployment, as well as to improve its kill capacity. The initial model, while designed to hit incoming targets 60% of the time, actually managed to score hits 30% of the time in field use. The Stinger saw its first active combat in the Falklands War, used by the British. During this conflict, serious problems with the Stinger were exposed. The missile frequently lost its lock on an aircraft and retargeted another heat source. This cause light damage to a number of British ships when stingers struck smokestacks, and it destroyed at least one meal when the missile retargeted a field kitchen preparing breakfast for the troops.

The current version is the Stinger-RMP Block I (Remote Programmable Processor) The Stinger RMP Block I makes software and hardware changes, including a new roll frequency sensor, a small battery, and an improved computer processor and memory. The Block I missile upgrades the RMP missile by adding a ring laser gyro to eliminate the need to super elevate prior to firing. The Block I missile also increases the onboard processing capability and replaces the current battery with a lithium battery. Block I improves the accuracy and IRCCM capabilities of the missile. The Army proposes to field more than 10,000 Stinger-



FIM-92 STINGER

Cyberthriller													
Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
FIM-92 Stinger Basic	MIS	0	N	M,O	30% /15%	0	1	1/2	UR	8000x 3046m	9.8	15.7	\$38,000
FIM-92A Stinger RMP Block I	MIS	0	N	M,O	60% /25%	0	1	1/2	UR	8000x 3046m	9.8	15.7	\$38,000
FIM-92A Stinger RMP Block II	MIS	0	N	M,O	70% /35%	0	1	1/2	UR	8000x 3046m	9.8	15.7	\$38,000
Special Rules	The \$38,000 price tag is for the launcher only. The missiles cost \$1,500 each.												

D20 System											
Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction	
FIM-92 Stinger Basic	30% /15%	-	slashing	-	SS	1	Lrg	47 lb	30	Mil (+3)	
FIM-92A Stinger RMP Block I	60% /25%	-	slashing	-	SS	1	Lrg	47 lb	30	Mil (+3)	
FIM-92A Stinger RMP Block II	70% /35%	-	slashing	-	SS	1	Lrg	47 lb	30	Mil (+3)	
Special Rules	Missiles are \$1500 each (Purchase DC 19)										

FUDGE							
Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
FIM-92 Stinger Basic	1	SS	Superb	Poor	Poor	\$38,000	
FIM-92A Stinger RMP Block I	1	SS	Superb	Fair	Mediocre	\$38,000	
FIM-92A Stinger RMP Block II	1	SS	Superb	Good	Fair	\$38,000	
Special Rules	Missiles are \$1500 each						

Action!												
Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes	
FIM-92 Stinger Basic	14+	-	12+	-	4	10km	1/20r	1	15.7	\$38,000		
FIM-92A Stinger RMP Block I	13+	-	10+	-	4	10km	1/20r	1	15.7	\$38,000		
FIM-92A Stinger RMP Block II	12+	-	9+	-	4	10km	1/20r	1	15.7	\$38,000		
Special Rules:	Missiles can be fired roughly once per minute, or once per 20 rounds (1/20r). Price is for the launcher only. Missiles cost \$1500 each.											

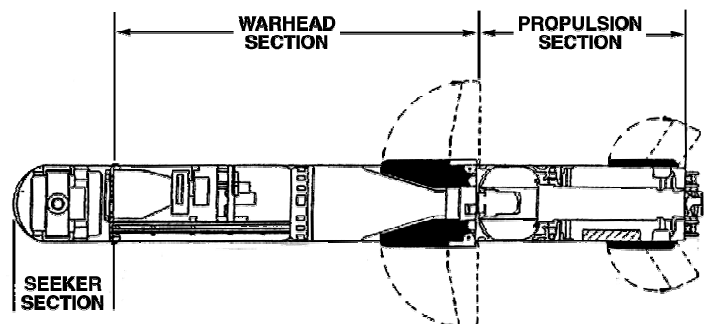
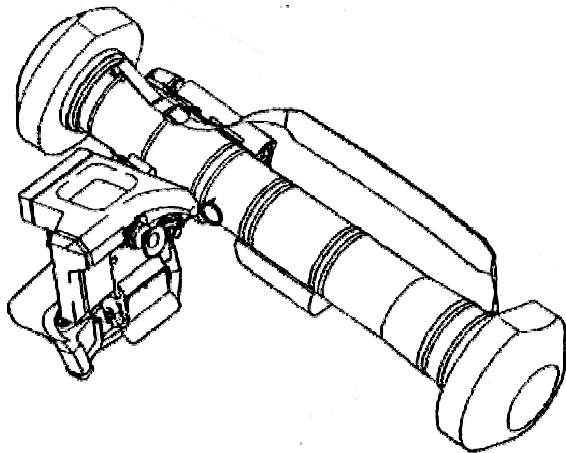
JAVELIN

The Javelin is a manportable next-generation guided anti-armor weapon system that has been a very long time coming. In 1978, deficiencies in the M47 Dragon were documented, leading to the eventual issuing of the Joint Services Operational Requirements document on the Javelin in 1986, with revisions in 1988, 10 years after the need for the Javelin was first identified. A development contract was awarded in 1989, and concluded in 1993 to be followed by three years of testing before entering full production in 1997. By the outbreak of Operation: Iraqi Freedom, the Javelin was fielded primarily by the 82nd and 101st Airborne divisions, as well as the 2nd Infantry Division, 3rd Infantry Division, 10th Infantry Division, 25th Infantry Division, 1st Cavalry Division, and the 6th Infantry Brigade. Fielding will not be complete until well into 2007, perhaps even later.

Weapon		Javelin Anti-Tank Guided Missile		
Manufacturer		Year	1997-	
Nation	United States	Mags	single shot	
Caliber				
Accuracy	Group		MOA	
	Kill		Pen	600mm
Velocity	217 m/s		Energy	
Weight	Empty		ROF	SS
	Loaded	28 kg		MB
Length	1760 mm		Burst	-
Range	Effective	2000 m		Auto
	Max.	2500 m		Cyclic
Notes	CLU weighs 6.4 kg.			

The Javelin is a vast improvement over the M47 Dragon, operating to an effective range of 2,500 meters. Its use of an imaging infrared system and fire and forget capacity also greatly improve the survivability of Javelin gunners, as well as providing limited anti-aircraft ability against slow, low-flying aircraft, like helicopters. The missile's normal attack mode is top-down, in which it attacks the thinly armored roof of an armored vehicle, but can be switched to a direct targeting assault mode, good for attacking the sides of armored vehicles when a top down attack is unlikely to succeed to do the target's position (for attacking a target hidden under a bridge, for example), as well as for attacking fortified or reinforced structures. Finally, the weapon has a "soft launch" signature, producing lower overpressure and backblast levels than its predecessor, making it more ideal for use in enclosed spaces, like firing from an upper story window in MOU operations. Like virtually all manportable ground attack rocket and missile systems manufactured in the last 40 years or so, the Javelin is based on a disposable storage / launch tube containing the missile, combined with a detachable, reusable targeting system. This targeting system, the Command Launch Unit (CLU), integrates day sights and a lightweight FLIR-type passive IR night sight with a power system based on disposable batteries into a hand-held surveillance unit as well as the targeting system, missile test, and damage assessment system for the Javelin. Once a target is acquired, the missile's own infrared focal plane array and on-board processor allow it to track a moving target and adjust its course to strike with its HEAT warhead penetrating some 600mm of RHA armor plate.

The Javelin weighs in at a hefty 50 lbs, with the major complaint for the weapon being the sling. It is slung diagonally at the back of the waist, where it bangs into the soldier's legs and greatly hinders foot mobility. Normally, a Javelin gunnery team needs to use an ATAC (All-Terrain All-purpose Cart) to haul around enough Javelin rounds to allow multi-fire capability.



JAVELIN

Cyberthriller													
Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
Javelin ATGM	HVY	+5	N	M	PEN 12, 4d10, 5m	0	1	1	VR	2500	-	28	\$105K
Special Rules													

D20 System											
Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction	
Javelin ATGM	PEN 12, 10d6, 15'	-	fire	165	SS	1	Lrg	50 lb	34	Mil (+3)	
Special Rules											

FUDGE							
Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
Javelin ATGM	1	SS	Superb	Superb	12	\$105K	Good Penetration
Special Rules							

Action!												
Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes	
Javelin ATGM	21d6 (210)	-	+3	+3	5	2500	1	1	28	\$105,000		
Special Rules:												

KALASHNIKOV AK-47 / AKM

The original Automat Kalashnikova rifle was developed in the days near and after the end of World War II in Europe. The rifle began as a gas operated semiautomatic carbine developed in 1944 by Mikhail Kalashnikov after he was transferred to IzhMash after being hospitalized for a wound. The design was refined through 1945 and 1946 before it was submitted for trials. The weapon was redesigned in 1947 for a second series of trials and the Soviet Army adopted the rifle in 1949 along with the AKS-47, and entered service in 1951 after field trials and minor modifications. Design of the weapon was by no means a simple task, with 10 experimental variations of the weapon produced between 1946 and its adoption in 1949. Once 1949 rolled around, the AK became the rifle that revolutionized the world, sold to over 50 nations and manufactured by at least a dozen. By the most recent estimates, there may be as many as over 120 million copies of the weapon around the world, making it so common that in some areas of Africa, you can buy one on the streets for as little as \$30 to \$50 USD. In some areas of the Middle East, particularly in Iraq, a crate of six new AK-47s can be bought for \$20! Focused on reliability and simplicity, and ignoring ergonomics and extended accuracy, the weapon was almost perfect for mass production and amusingly is referred to as the best weapon ever designed for use in World War Two.

The AK-47 was the infantryman's weapon, outfitted with a fixed wooden stock. The AKS-47, with its folding metal stock and lacking a tool kit, was designed for use initially by paratroops, but was also relegated to armor crews. Aside from these two differences, the two rifles were otherwise identical. The early weapons had no bayonettes, though a bayonette kit was later introduced for the AK-47. Both rifles can be outfitted with a GP-25 grenade launcher, as well as a passive image intensifier night sight. Sight settings for both rifles ranged from 10 to 800 meters.

The hallmark of these two rifles was the quality of the design. They could be completely immersed in water and mud and function normally immediately upon withdrawal from the muck. Additionally, their fully chromed barrels allowed both operation in the freezing cold of a Russian winter as well as operability after long term storage to the point that the weapon began to rust. However, the AK-47 wasn't without its drawbacks. The greatest problem is the low muzzle velocity of its relatively heavy bullet, making it difficult to accurately fire beyond 300 meters. The barrel is also prone to rapid overheating with sustained fire. At the least, the weapon becomes difficult to hold, and can even experience cookoff in the chamber of a newly chambered round. The final serious problem is the exposed gas cylinder. If dented badly enough, it can cause constant weapon malfunctions. The weapon has one final problem, a rather minor one at that. When reloaded, the AK has to be recharged or recocked, unlike most other assault rifles, which lock the bolt open when they fire their last round. Additionally, the cocking handle is milled as part of the bolt carrier, meaning that it reciprocates with the bolt when the weapon fires.

1954 was the first year to see significant modification of the weapon, switching from the combination stamped/milled parts of the original AK-47 to a completely milled receiver, as cost-cutting measures to make the rifle more suitable for the international arms market. Revolutionaries don't have nearly as much cash for their guns as the governments they oppose.

The AK-47 was the primary infantry weapon of the Soviet Army from 1951 to 1959, when the military began its replacement with the AKM. The AKM is the Automat Kalashnikova Modernizirovannyj, or Kalashnikov Automatic Modernized, an updated design for the AK-47. The key changes for this model was the switch to a completely stamped receiver rather than the milled/stamped combination of receivers used for the AK-47 and AKS-47. Other improvements included the addition of a hammer release delay mechanism (often erroneously misidentified as a rate reduction device), redesigned buttstock and pistol grip, and a removable muzzle flip compensator. The redesigned stock and grips weren't simply reshaped, but the wood was also replaced with plastic forms weighted with a glass fill. The sights were also improved with settings for 10 to 1000 meters. However, the AKM still has the range problems of the AK-47, making the weapon very ineffective past 300 meters. The last major improvements were the addition of a standard multipurpose bayonette, complete with a wire-cutter sheath, and the PBS-1 Noiseless Firing Device (a silencer) and the necessary subsonic ammunition to use with the PBS-1.

In 1974, the Soviet Union officially adopted the 5.45mm round as its new small arms munition, and replaced the AKM with the AK-74 as the primary infantry weapon. However, the AMH remains in service with the Russian military to this day. After 1974, it remained the primary

Weapon		AK-47			
Manufacturer	Kalashnikov	Year	1947-1974		
Nation	Russia				
Caliber	7.62x39mm Bloc	Mags	30		
Accuracy	Group	68.7 cm	MOA		
	Kill				
Velocity	710 m/s	Energy	2004 J		
Weight	Empty	4.3 kg	ROF	SS	40
	Loaded	4.9 kg		MB	-
Length	870mm		Burst	3	
Range	Effect.	300 m	Auto	100	
	Max.	1500m	Cyclic	600	
Notes					

Weapon		AKS-47			
Manufacturer	Kalashnikov	Year	1947-1974		
Nation	Russia				
Caliber	7.62x39mm Bloc	Mags	30		
Accuracy	Group	68.7 cm	MOA		
	Kill				
Velocity	710 m/s	Energy	2004 J		
Weight	Empty	4.3 kg	ROF	SS	40
	Loaded	4.9 kg		MB	-
Length	870mm		Burst	3	
Range	Effect.	300 m	Auto	100	
	Max.	1500m	Cyclic	600	
Notes					

Weapon		AKM			
Manufacturer	Kalashnikov	Year	1959-1974		
Nation	Russia				
Caliber	7.62x39mm Bloc	Mags	30		
Accuracy	Group	68.7 cm	MOA		
	Kill				
Velocity	710 m/s	Energy	2004 J		
Weight	Empty	3.14 kg	ROF	SS	40
	Loaded	3.74 kg		MB	-
Length	870mm		Burst	3	
Range	Effect.	300 m	Auto	100	
	Max.	1500m	Cyclic	600	
Notes					

Weapon		AKMS			
Manufacturer	Kalashnikov	Year	1959-1974		
Nation	Russia				
Caliber	7.62x39mm Bloc	Mags	30		
Accuracy	Group	68.7 cm	MOA		
	Kill				
Velocity	710 m/s	Energy	2004 J		
Weight	Empty	3.14 kg	ROF	SS	40
	Loaded	3.74 kg		MB	-
Length	870mm		Burst	3	
Range	Effect.	300 m	Auto	100	
	Max.	1500m	Cyclic	600	
Notes					

KALASHNIKOV AK-47 / AKM

weapon of non-infantry forces, and after the poor performance of the 5.45mm round in various conflicts through the 1980's and 1990's, particularly in Afghanistan and Chechnya, special forces troops of the army, police and Internal Affairs Ministry have gone back to using the AKM and its more powerful and lethal 7.62mm round.

Along with Soviet manufacture, the AK-47 and AKM were licensed for manufacture in Bulgaria, China, East Germany, Egypt, Finland, Hungary, Iraq, North Korea, Romania, and Yugoslavia. Currently, only Russia's IzhMash is the only remaining manufacturer of the weapon for military use, in its latest incarnation, the AK-103. A wide array of semi-automatic civilian versions are manufactured by a number of countries, including Russia, China, Bulgaria, Romania and others.

The primary magazine for the AK-47 and AKM are stamped steel 30-round box magazines. These magazines, while robust, are also atypically heavy for their caliber and capacity. Only with the adoption of the AK-74 and its plastic magazines did the Soviet military begin procuring 7.62x39mm magazines also made of lightweight plastics. The bulk of these plastic magazines were the trademark reddish or orangish color, though a limited number were produced of transparent polycarbonates. Additionally, the AK-47 and AKM can use the 40-round box magazines and 75-round drum magazines of the RPK Light Machine Gun. There were also two high-capacity magazines produced for the AK. First was the four-column 60-round arc magazine, with a 4-row floor, delta arranger, and two-row follower. These magazines were heavy at 0.6 kg unloaded, and could make the rifle cumbersome to fire. However, as bulky as these magazines seemed, it was nothing compared to the 100-round high capacity semi-round magazines made for the rifle. These magazines used a double-row checkerboard arrangement and were simply an extension of the 30-round box design. To load this magazine one went through a process definitely not suited for the battlefield. First, on the bottom of the magazine, there is a steel loop. This is slipped over the end of the rifle barrel. The other end of the magazine is then inserted into the rifle's magazine guides and latched. Cock the rifle and enjoy up to 10 seconds of sustained fire or a minute full of bursts. These 100-round mags are a hefty 1.1 kg in weight and almost a half meter long.

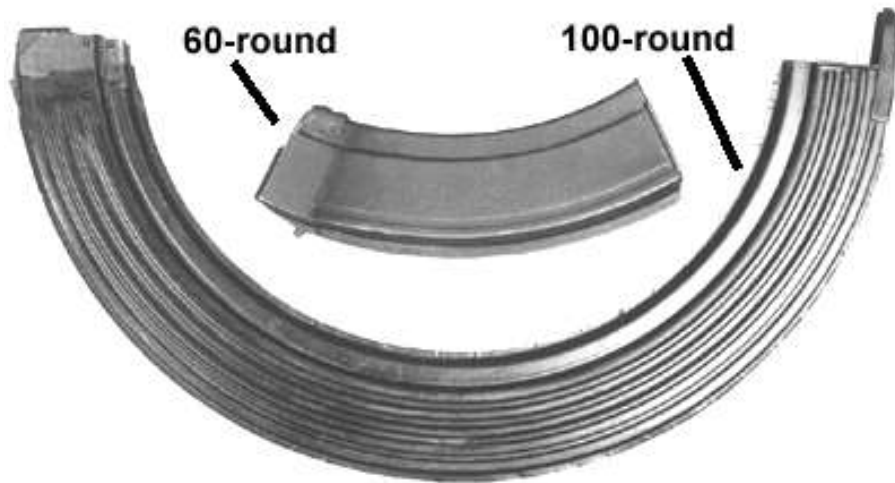


AK-47



**Modified AK-47 circa 1955
aka AK-54**

KALASHNIKOV AK-47 / AKM



KALASHNIKOV AK-47 / AKM

Cyberthriller													
Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
AK-47	AR	-2	T	M	7.62 Bloc	0	30	2 [SS], 5	VR	300	4.3	4.9	\$50
AKS-47	AR	-2	T	M	7.62 Bloc	0	30	[A], 30 [C]	VR	300	4.3	4.9	\$50
AKM	AR	-2	T	M	7.62 Bloc	0	30	2 [SS], 5	VR	300	3.14	3.74	\$50
AKMS	AR	-2	T	M	7.62 Bloc	0	30	[A], 30 [C]	VR	300	3.14	3.74	\$50
GP-25 Grenade Launcher	ACC	-4	J	M	40mm LVG	0	1	1/2	VR	50-400	1.5	1.75	\$150
VOG-25 Fragmenting Grenade	-	-	-	M	4D6, 5m r	0	-	-	VR	-	-	0.25	\$10
VOG-25P "Frog" Bounding Fragmenting Grenade	-	-	-	M	5D6, 6m r	0	-	-	VR	-	-	0.25	\$10
Special Rules	GP-25 Ammo: VOG-25 Impact detonation fragmentation grenade, 6 meter blast radius, weighs 0.25 kg. VOG-25P bounding fragmentation "Frog", airburst at altitude of 50 to 150 cm, 6 meter blast radius. Both rounds detonate via self-destruct 14 seconds after firing if they aren't triggered otherwise.												

D20 System											
Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction	
AK-47	2d10	20	ballistic	100	SA, A	30	Lrg	11 lbs	7	Res (+2)	
AKS-47	2d10	20	ballistic	100	SA, A	30	Lrg	11 lbs	7	Res (+2)	
AKM	2d10	20	ballistic	100	SA, A	30	Lrg	11 lbs	7	Res (+2)	
AKMS	2d10	20	ballistic	100	SA, A	30	Lrg	11 lbs	7	Res (+2)	
GP-25 Grenade Launcher	-	-	-	135	SS	1	Sm	3 lbs	11	Mil (+3)	
VOG-25 Fragmenting Grenade	3d6, 5m r.	-	Slashing	-	-	-	Sm	0.5 lb	3	Mil (+3)	
VOG-25P "Frog" Bounding Fragmenting Grenade	4d6, 6m r.	-	Slashing	-	-	-	Sm	0.5 lb	3	Mil (+3)	
Special Rules	GP-25 Ammo: VOG-25 Impact detonation fragmentation grenade, 6 meter blast radius, weighs 0.25 kg. VOG-25P bounding fragmentation "Frog", airburst at altitude of 50 to 150 cm, 6 meter blast radius. Both rounds detonate via self-destruct 14 seconds after firing if they aren't triggered otherwise.										

FUDGE							
Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
AK-47	30	SA, A, C	Mediocre	Mediocre	4	\$50	
AKS-47	30	SA, A, C	Mediocre	Mediocre	4	\$50	
AKM	30	SA, A, C	Mediocre	Mediocre	4	\$50	
AKMS	30	SA, A, C	Mediocre	Mediocre	4	\$50	
GP-25 Grenade Launcher	1	SS	Fair	Mediocre	-	\$150	
VOG-25 Fragmenting Grenade	-	-	-	-	5	\$10	
VOG-25P "Frog" Bounding Fragmenting Grenade	-	-	-	-	5	\$10	
Special Rules	GP-25 Ammo: VOG-25 Impact detonation fragmentation grenade, 6 meter blast radius, weighs 0.25 kg. VOG-25P bounding fragmentation "Frog", airburst at altitude of 50 to 150 cm, 6 meter blast radius. Both rounds detonate via self-destruct 14 seconds after firing if they aren't triggered otherwise.						

Action!											
Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
AK-47	5d6+2	P/L	-1	-1	4	300	2/30	30	4.9	\$50	
AKS-47	5d6+2	P/L	-1	-1	4	300	2/30	30	4.9	\$50	
AKM	5d6+2	P/L	-1	-1	4	300	2/30	30	3.74	\$50	
AKMS	5d6+2	P/L	-1	-1	4	300	2/30	30	3.74	\$50	
GP-25 Grenade Launcher	-	-	-1	0	2	400	1/3r	1	1.75	\$150	
VOG-25 Fragmenting Grenade	6d6	P/L	-	-	-	-	-	-	0.25	\$10	
VOG-25P "Frog" Bounding Fragmenting Grenade	6d6	P/L	-	-	-	-	-	-	0.25	\$10	
Special Rules:	GP-25 Ammo: VOG-25 Impact detonation fragmentation grenade, 6 meter blast radius, weighs 0.25 kg. VOG-25P bounding fragmentation "Frog", airburst at altitude of 50 to 150 cm, 6 meter blast radius. Both rounds detonate via self-destruct 14 seconds after firing if they aren't triggered otherwise. Grenade launcher can be fired roughly once per 10 seconds or once per 3 rounds (1/3r)										

M-136 AT4

The M136 AT4 is the Army's primary light anti-tank weapon. The M136 AT4 is a recoilless rifle used primarily by Infantry Forces for engagement and defeat of light armor. The recoilless rifle design permits accurate delivery of an 84mm High Explosive Anti-Armor warhead, with negligible recoil.

The M136 AT4 is a lightweight, self-contained, antiarmor weapon consisting of a free-flight, fin-stabilized, rocket-type cartridge packed in an expendable, one-piece, fiberglass-wrapped tube. The M136 AT4 is man-portable and is fired from the right shoulder only. The launcher is watertight for ease of transportation and storage. Unlike the M72-series LAW, the M136 AT4 launcher need not be extended before firing.

Though the M136 AT4 can be employed in limited visibility, the firer must be able to see and identify the target and estimate the range to it. Subsequent to the initial fielding of the weapon, a reusable night sight bracket was developed and fielded. It permits utilization of standard night vision equipment. The system's tactical engagement range is 250 to 300 meters, with an arming range of 10 meters and a maximum range of 2,100 meters. It has been used in multiple combat situations. The round of ammunition is self-contained in a disposable launch tube. The system weighs 15 pounds and can be utilized effectively with minimal training.

Over 600,000 were manufactured for the United States between 1988 and 1995. Additionally, an upgraded version was eventually introduced in the 90's, the AT4 Confined Space, designed to allow troops to use the weapon from within enclosures typically located in an urban environment. The AT4 CS utilizes a dual motor system, the first to propel the rocket several meters away from the rocket before the main rocket motor ignites, greatly reducing the back blast in enclosed environments. Additionally, the warhead is upgraded, penetrating as much as 650mm and being useful as a bunker buster as well.

Weapon	M-136 AT4			
Manufacturer	FFV Ordinance, Saab Bofors, Alliant Techsystems	Year	1987-1994	
Nation	Sweden, United States			
Caliber	84mm rocket	Mags	single shot	
Accuracy	Group		MOA	
	Kill		Pen	400mm
Velocity	290 m/s		Energy	
Weight	Empty		ROF	SS 1
	Loaded	6.7 kg		MB -
Length	1020 mm			
Range	Effective	300 m		Burst -
	Max.	2100 m		Auto -
Notes			Cyclic	-

Weapon	M-136 AT4 CS			
Manufacturer	FFV Ordinance, Saab Bofors, Alliant Techsystems	Year	1995-	
Nation	Sweden, United States			
Caliber	84mm rocket	Mags	single shot	
Accuracy	Group		MOA	
	Kill		Pen	650mm
Velocity	290 m/s		Energy	
Weight	Empty		ROF	SS 1
	Loaded	6.7 kg		MB -
Length	1020 mm			
Range	Effective	300 m		Burst -
	Max.	2100 m		Auto -
Notes			Cyclic	-



M-136 AT4

Cyberthriller													
Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
M136 AT4	HVY	0	N	M	PEN 8, 3D10, 3m	0	1	1	VR	300	-	6.7	\$1481
M136 AT4 CS	HVY	0	N	M	PEN 12, 4D10, 3m	0	1	1	VR	300	-	6.7	\$1500
Special Rules													

D20 System											
Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction	
M136 AT4	PEN 8, 8d6, 15'r	-	fire	65	1	1	Lrg	15 lb	19	Mil (+3)	
M136 AT4 CS	PEN 12, 10d6, 20'r	-	fire	65	1	1	Lrg	15 lb	19	Mil (+3)	
Special Rules											

FUDGE							
Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
M136 AT4	1	SS	Mediocre	Fair	10	\$1481	Mediocre penetration
M136 AT4 CS	1	SS	Mediocre	Fair	10	\$1500	Good penetration
Special Rules							

Action!												
Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes	
M136 AT4	14d6 (140)	P/L	0	-1	3	2100	1	1	6.7	\$1481		
M136 AT4 CS	22d6 (227)	P/L	0	-1	3	2100	1	1	6.7	\$1500		
Special Rules: D6 damage value is normal scale damage that applies to most items struck. The value in parenthesis is Mega scale damage that applies only penetrating a vehicle, structure, or other item that can be considered armored.												

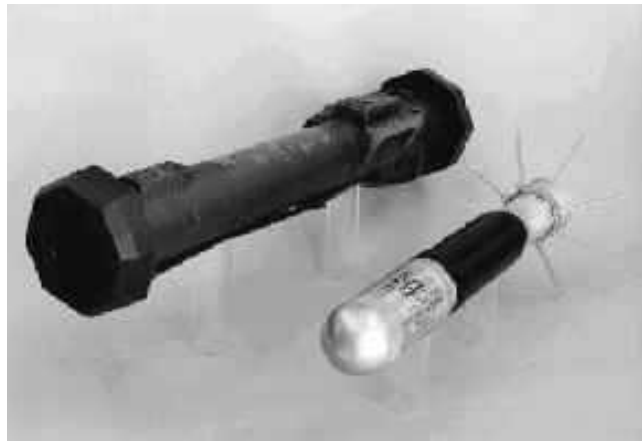
M-141 BDM

Developed for the US Army, the M141 BDM is a one-shot, disposable version of the SMAW deployed by the US Marines. Initially, it was being developed as a separate program, but procurers noticed too many similarities between the SMAW and BDM programs. The end result is a SMAW dual mode rocket being fired from a disposable launcher system similar to that of the M136 AT4. The result was a weapon system the Army could use against both concrete structures and lightly armored vehicles at ranges of 15 to 500 meters. Entered into inventories in 1999, the Army procured a total of 6,000 of these weapons. Development of the BDM started after Desert Storm, where the Marines loaned to the Army 150 SMAW launchers and 5,000 rounds.

Though Congress allowed the Army to obtain 6,000 BDMs, this supply is an interim stock only and will not be replenished as the munitions are used. It was decided that the BDM and SMAW were too similar in nature and the Marines and Army will have to converge the two weapons into a joint system utilizing the basic rocket and launcher technology developed for the Marines with the warhead and fusing technology developed for the Army. While the United States will not be procuring any further quantities of the M141, it is not unreasonable to assume the manufacturer offers them for sale to friendly nations. The manufacturer, Talley Defense Systems, is now offering the SMAW-D/CS, a SMAW-D integrating the propulsion system of the newly fielded SMAW-LEAP used by the Marines. No Army contract for the weapon has been offered as of yet, however.

The weapon's full designation is M141 BDM SMAW-D (Model 141 Bunker Defeating Munition, Shoulder-launched Multipurpose Assault Weapon - Disposable).

Weapon		M-141 Bunker Defeating Munition			
Manufacturer	Talley Defense Systems	Year	1999		
Nation	United States				
Caliber	84mm rocket		Mags	single shot	
Accuracy	Group			MOA	
	Kill			Pen	400mm
Velocity	290 m/s		Energy		
Weight	Empty			ROF	SS 1
	Loaded	7.14 kg			MB -
Length	813 mm			Burst	-
Range	Effective	500 m		Auto	-
	Max.	1200 m		Cyclic	-
Notes					



M-141 BDM

Cyberthriller													
Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
M141 BDM SMAW-D	HVY	0	N	M, O	PEN 6, 2D10, 5m	0	1	1	VR	500	-	7.2	\$1600
Special Rules													

D20 System											
Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction	
M136 AT4	PEN 6, 6d6, 10'	-	fire, slashing	165	1	1	Lrg	16 lb	19	Mil (+3)	
Special Rules											

FUDGE							
Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
M136 AT4	1	SS	Fair	Fair	10	\$1600	Mediocre Penetration
Special Rules							

Action!												
Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes	
M136 AT4	14d6 (140)	P/L	0	0	3	500	1	1	7.2	\$1600		
Special Rules:		D6 damage value is normal scale damage that applies to most items struck. The value in parenthesis is Mega scale damage that applies only penetrating a vehicle, structure, or other item that can be considered armored.										

M-16A2

The M-16 has been the rifle of the US Army since 1964, when it was adopted as an interim weapon to fill military needs while the M14 was cycled out of service and the SPIW finished development. Needless to say, the SPIW never finished development and the M-16 has been serving in its place ever since. While the current general issue model of the rifle, the M-16A2, is considered one of the world's best assault rifles, it's past isn't anywhere near as stellar.

The current model is the M-16A2, specifically optimized for the SS-109 NATO cartridge. In 1977, NATO adopted the SS-109 as its new cartridge, taking advantage of the improved long range performance offered by this round, which was originally developed specifically for the Minimi machine gun. Colt didn't get around to producing the modified M-16A2 until 1981, and the rifle wasn't adopted until 1983 for the Marines and 1985 for the Army.

The M-16A2 is a competent weapon, weighing 4.77 kg loaded with a 30-round magazine, with an 800 rpm cyclic rate and an effective range out to 550 meters. The foregrip handguard can be removed and replaced with a mounting rail that can mount an M-203 grenade launcher or any of a number of other attachments. It also made a number of changes to the gun unrelated to the adoption of the SS-109 round. The rear sight was replaced with a new one that could be adjusted for range and windage, the handguards were switched from the previous triangular ones to round ones, and following the Army's ammunition conservation doctrine, the weapons full automatic mode was replaced with a three round burst mode.

Along with the US military, the M-16/AR-15 see a great deal of law enforcement use within the United States. After the North Hollywood shootout on February 28, 1997, the LAPD began correcting its firepower deficiencies by procuring surplus M-16s. The initial goal was to provide one M-16 for the squad car of every watch commander, with the eventual goal of mounting one in the trunk of every squad car. A vast number of other law enforcement agencies employ both military surplus fully automatic M-16s or semi-automatic AR-15 rifles in their inventories. The M-16 is also used by a wide variety of foreign military organizations, most notable being the British Special Air Services, who prefer the rifle over their nation's own SA-80 rifles. The AR-15 and M-16 are so popular around the world that within the US alone, it is manufactured by over a dozen different companies, including Armalite, Bushmaster, Colt, FN Manufacturing, Hess, Les Baer, Olympic, Wilson Combat, and a range of smaller manufacturers, many of which simply assemble their rifles from assorted components manufactured by the larger gun makers. Military grade M-16 clones are manufactured by FN Manufacturing, Diemaco Co of Canada, and the Chinese state weapon factories of NORINCO.

The latest versions of the rifle, the M-16A3 and M-16A4, were adopted by the US military in 1994. However, the adoption has not been widespread. These two rifles feature the major change of a flat top upper receiver topped with a picatinny rail, with the tradition M-16 carry handle becoming an accessory that attaches to that rail. The M-16A3 is capable of semi-automatic fire and three round bursts. The M-16A4 marks the return of a fully automatic M-16, replacing the burst mode with full automatic mode. These two rifles are used mainly by SOCOM associated forces (Navy SEALs, Army Rangers, Special Forces, Airborne, Air Force Parajumpers, Marine Force Recon) when they aren't employing an M4A1 carbine instead.

With the testing of the XM-29 SABR and XM-8 Lightweight Assault Rifle, as well as the extensive adoption of the M-4 and M-4A1 carbines, the M-16 may very well be on its last legs in the US Army. With the army reorganizing for rapid deployment and retraining for special operations and urban combat, the shorter overall size and lighter weight of the XM-8 and M4 are great benefits over the M-16A2. Still even the M-4s are threatened with a new generation of ergonomically designed rifles and accessories. The XM-29 was the first rifle of the generation, three components designed to reduce their bulk compared to an equivalent M-16 or M-4 MWS. Since then, the PAPOP, Groza, F2000, and other rifles have joined the XM-29, providing the option of obtaining highly competent and comfortable weapons rather than issuing yet another clumsily accessorized M-16 or M-4.

With the vast array of M-16 variant available (the US military keeps over 30 different M-16 and M-4 variants in inventory alone), we've chosen to detail those other variants separately in later volumes.

In review of after action reports by the USMC, some startling facts have come to light about the M16A2 of the USMC arsenals used in Iraq. The takedown pins are universally flawed. Sand would enter the rifle in the pin slots and grind down the pins to the point of snapping, just through the normal daily jostling of marching. The problem was so bad that a significant number of marines had to hold their weapons together with either zip ties or duct tape. Additionally, the after-action report on the ambush and capture of the AUSA 507th Maintenance Company near An Nasiriya on 23 March 2003 indicates that most of their weapons malfunctioned to a point of permanent failure during the 90 minute firefight that led to the capture.

Weapon	M-16A2			
Manufacturer		Year	1978-	
Nation	France, Germany, UK			
Caliber	125mm Missile		Mags	1
Accuracy	Group	48.75 cm	MOA	
	Kill		Pen	
Velocity	975 m/s		Energy	
Weight	Empty	3.77 kg	ROF	SS 45
	Loaded	4.47 kg		MB -
Length	1006mm		Burst	3
Range	Effective	550 m	Auto	90
	Max.		Cyclic	800
Notes	US Army pays \$601 per unit, the US Marines pay \$586 per unit.			



M-16A2

Cyberthriller													
Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
M-16A2	AR	-1	T	M	5.56 N	0	30	2 [SS], 3 [B]	RE	550	3.77	4.17	\$600
Special Rules													

D20 System											
Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction	
M-16A2	2d8	20	ballistic	180	S,A	30	Med	10 lb	16	Mil (+3)	
Special Rules											

FUDGE							
Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
M-16A2	30	SA, B	Good	Fair	4	\$600	
Special Rules							

Action!												
Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes	
M-16A2	5d6+2	P/L	0	+1	3	550	2/3	30	4.17	\$600		
Special Rules:												

M-1911A1 SERVICE PISTOL

What? You thought that when the Department of Defense adopted the M9 as the service pistol for all the services, the M1911A1 .45 Caliber pistol vanished from the inventories? Well, you're mostly right. The U.S. government used to possess over one million M1911A1 pistols. However, since the introduction of the M9, the stockpile of M1911A1 pistols has dwindled down to under 10,000 pistols, virtually all of which are in the hands of the USMC's Marine Expeditionary Units.

The pistol is a recoil operated, magazine-fed, semi-automatic single-action design handgun that fires a single round each time the trigger is squeezed once the hammer is cocked by prior action of the slide or by thumb. The pistol utilizes a thumb safety that can only be engaged when the hammer is cocked, locking the hammer in this open position while the safety is engaged.

After serving the U.S. military for over 80 years, these pistols are widely respected as very reliable and highly lethal pistols. The single-action design, unfortunately, requires shooters to be very familiar and well trained in use of the pistol before they are allowed to carry the pistol in a ready-to-fire state (round in the chamber, hammer cocked and locked). Consequently, standing orders were that the pistol not be holstered with a round in the chamber. Even with this restriction, dozens of injuries from accidental discharges were documented annually.

The original M1911 pistol was adopted by the U.S. military in 1911, following a selection process that was initiated by the U.S. Army in 1906. After over 10 years in service, the Army mandated a number of improvements, in the pistol, adopting the revised design as the M1911A1 in 1924. These changes were: wider front sight, longer hammer spur, shorter trigger, curved spring housing, simplified checker pattern on the grips, index finger reliefs behind the trigger, and a longer safety switch spur. The pistol remained unchanged by the military between 1924 and its official retirement in 1983.

In addition to the M1911A1, the government also adopted the M15 General Officers Pistol in 1972. Developed by the Rock Island Arsenal, this pistol was based on the Colt Combat Commander pistol as it was available at that time. Designed as the Army's general issue sidearm for high ranking officers and their general staff officers, the pistol had a brass plate inset on the left side of the grip, where the owner's name could be engraved. Prior to this, general staff officers had been issued the M1908 Colt Pocket Hammerless Pistol, which by 1970, were worn out and desperately needed replacement.

The last major change made to the M1911A1 by the military was actually done after the M1911A1 was officially retired as the military's standard sidearm service pistol. During the mid 1980's, the USMC decided that the M9 wasn't a suitable backup weapon for Close Quarters Combat teams armed with the MP-5N as their primary weapon. In 1986, some 500 M1911A1s were shipped off to the Rifle Team Equipment Shop at Quantico, where they were hand-rebuilt and modified to "near match" or "combat accurized" state.



Weapon		M-1911A1 .45 Semiautomatic Pistol				
Manufacturer	Colt	Year	1924-			
Nation	United States					
Caliber	.45 ACP	Mags	7			
Accuracy	Group	40 cm @ 50 m	MOA			
	Kill		Pen			
Velocity	253 m/s		Energy			
Weight	Empty	1.14 kg	ROF	SS	45	
	Loaded	1.36 kg		MB	-	
Length	219 mm				Burst	-
Range	Effective	25 m		Auto	-	
	Max.			Cyclic	-	
Notes	Range and Accuracy reflect US military issue pistols, most of which were originally procured over 50 years ago. A new M1911A1 would have a group of 20.7 cm at 50 meters, and an effective range of about 70 meters.					

Weapon		M-15 General Officers Pistol				
Manufacturer	Rock Island Arsenal	Year	1972-			
Nation	United States					
Caliber	.45 ACP	Mags	7			
Accuracy	Group	21 cm @ 50 m	MOA			
	Kill		Pen			
Velocity	245 m/s		Energy			
Weight	Empty	1.02 kg	ROF	SS	45	
	Loaded	1.24 kg		MB	-	
Length	200 mm				Burst	-
Range	Effective	25 m		Auto	-	
	Max.			Cyclic	-	
Notes						

Weapon		USMC MEU(SOC) .45 Pistol				
Manufacturer	USMC RTE Shop	Year	1986-			
Nation	United States					
Caliber	.45 ACP	Mags	7			
Accuracy	Group	8 cm @ 50 m	MOA			
	Kill		Pen			
Velocity	252 m/s		Energy			
Weight	Empty	1.14 kg	ROF	SS	45	
	Loaded	1.36 kg		MB	-	
Length	219 mm				Burst	-
Range	Effective	50 m		Auto	-	
	Max.			Cyclic	-	
Notes	If you build your own, the cost will likely be about \$1500, since you don't have the bulk buying power of the United States Federal Government.					

MEU(SOC) is the abbreviation for **M**arine **E**xpeditionary **U**nit (**S**pecial **O**perations **C**apable).

These pistols begin as a stripped and inspected government contract M1911A1 pistol frame, circa 1945. The frame is dehorned and the feed ramp is polished and throated. All internal parts are replaced with current commercial aftermarket parts. The weapon is fitted with a beaver-tail grip safety and ambidextrous thumb safety from King's Gun Works. While this modification is considered superfluous, the pistols need to be conditioned for use in either hand by any marine in the platoon the weapon is issued to. Even with the current modifications, many shooters are unable to depress the grip safety when the thumb is properly on the thumb safety. The next series of rebuilds will feature a "memory bump" grip safety, hopefully to end the forbidden practice of taping the grip safety closed. The old triggers are replaced with Videcki aluminum triggers tuned to a pull of four to five pounds. The standard spur hammers are replaced with the rounded hammers manufactured for the Colt Commander. The slides are provided under contract by Caspian and Springfield, Inc. The current slides feature a lowered and scalloped ejection port to improve ejection. These too will be replaced in the next rebuild series, featuring new slides with forward slide serrations to enhance chambered round verification when performing a press check. The precision barrels are provided by Bar-Sto, and the barrel

M-1911A1 SERVICE PISTOL

bushings come from King's Gun Works, as do the front sight.

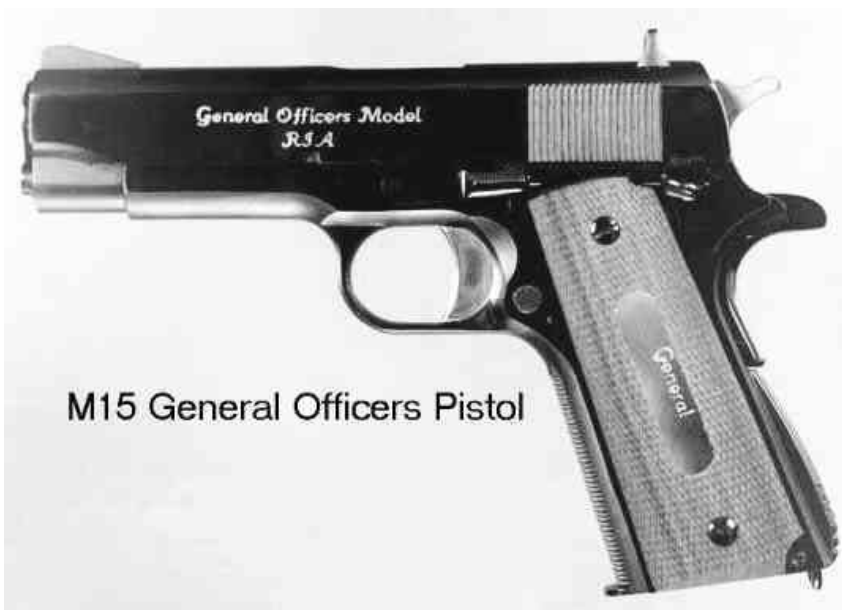
The rest of the parts are manufactured at the RTE Shop. First is the high profile rear sight that provides an excellent sight picture, which are staked into position, rather than using the more common and secure dovetail technique. They also fit the gun with smooth Pachmayer rubber grip panels, a lanyard loop, and a fiber recoil buffer. These buffers absorb a good amount of the battering, but will eventually deteriorate, releasing debris inside the gun. This is normally a problem, except for the maintenance on these weapons has taken on almost religious proportions. Finally, the general issue magazines are also replaced with competition grade commercial stainless steel magazines with a rounded plastic follower and extended floor plate. The lanyards are supplied by the shooters, and in typical military tradition, are typically not actual lanyards, but such things as lengths of straight or coiled telephone cord, cable ties, twine, zip cuffs, and the like.

Along with these few M1911 variants used by the U.S. Military, there have been dozens of additional clones manufactured for the commercial and military markets, not only in the United States, but around the world. Those many guns will be detailed at a later date.



M1911

M1911A1



M15 General Officers Pistol

M-1911A1 SERVICE PISTOL

Cyberthriller													
Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
M1911A1 .45 Pistol	HND	0	J	M,C	.45 ACP	0	7	2 [SS]	VR	25	1.14	1.36	\$242
M1911A1 .45 Pistol (new)	HND	+3	J	M,C	.45 ACP	0	7	2 [SS]	VR	50	1.14	1.36	\$242
M15 General Officers Pistol	HND	+3	J	M,O	.45 ACP	-1	7	2 [SS]	VR	40	1.02	1.24	\$470
MEU(SOC) .45 Pistol	HND	+6	J	M	.45 ACP	0	7	2 [SS]	VR	50	1.14	1.36	\$600
Special Rules	The M15 General Officers Pistol was issued only to officers of the rank of Colonel or higher.												

D20 System											
Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction	
M1911A1 .45 Pistol	2d6	20	ballistic	10	SA	7	Med	3 lb	13	Lic (+1)	
M1911A1 .45 Pistol (new)	2d6	20	ballistic	20	SA	7	Med	3 lb	13	Lic (+1)	
M15 General Officers Pistol	2d6	20	ballistic	15	SA	7	Med	3 lb	15	Lic (+1)	
MEU(SOC) .45 Pistol	2d6	20	ballistic	20	SA	7	Med	3 lb	16	Lic (+1)	
Special Rules	The MEU(SOC) .45 Pistol should be considered a +2 Mastercraft weapon. The M15 General Officers Pistol was issued only to officers of the rank of Colonel or higher.										

FUDGE							
Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
M1911A1 .45 Pistol	7	SA	Terrible	Fair	3	\$242	
M1911A1 .45 Pistol (new)	7	SA	Mediocre	Good	3	\$242	
M15 General Officers Pistol	7	SA	Poor	Good	3	\$470	
MEU(SOC) .45 Pistol	7	SA	Mediocre	Superb	3	\$600	
Special Rules	The M15 General Officers Pistol was issued only to officers of the rank of Colonel or higher.						

Action!											
Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
M1911A1 .45 Pistol	3d6+2	P/L	0	-3	2	25	2	7	1.36	\$242	
M1911A1 .45 Pistol (new)	3d6+2	P/L	+1	-1	2	50	2	7	1.36	\$242	
M15 General Officers Pistol	3d6+2	P/L	+1	-2	2	40	2	7	1.24	\$470	
MEU(SOC) .45 Pistol	3d6+2	P/L	+3	-1	2	50	2	7	1.36	\$600	
Special Rules:	The M15 General Officers Pistol was issued only to officers of the rank of Colonel or higher.										

M-2 .50 CALIBER MACHINE GUN

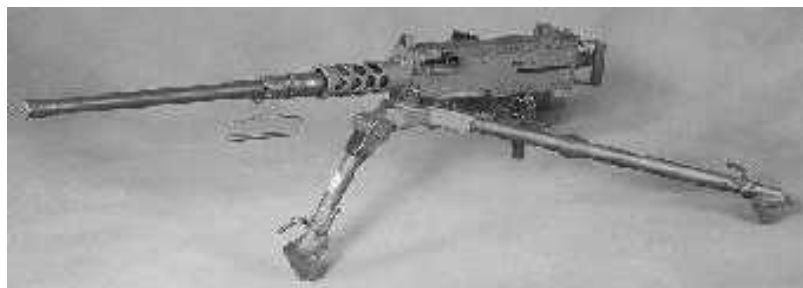
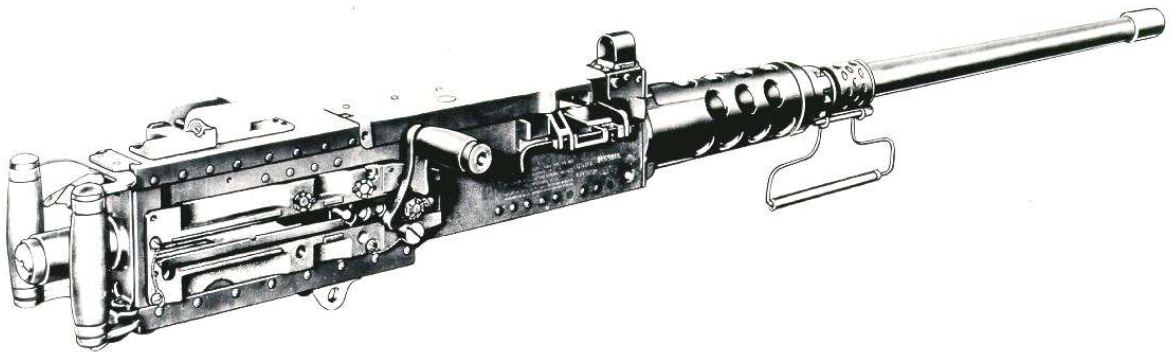
The Browning M2 .50 caliber (12.7mm) Machine Gun, is a World War II era automatic, belt-fed, recoil operated, air-cooled, crew-operated machine gun. The M2 is crew transportable with limited amounts of ammunition over short distances. This gun is has a back plate with spade grips, trigger, and bolt latch release. The gun is equipped with leaf-type rear sight, flash suppressor and a spare barrel assembly. By repositioning some of the component parts, ammunition may be fed from either the left or right side. A disintegrating metallic link-belt is used to feed the ammunition into the weapon. The gun is capable of single-shot (ground M2), as well as automatic fire.

This gun may be mounted on ground mounts and most vehicles as an anti-personnel and anti-aircraft weapon. Associated components are the M63 anti-aircraft mount and the M3 tripod mount. The M2 .50 Cal. flexible version is used as a ground gun on the M3 tripod mount or various Naval mounts. The M2 .50 Cal., M48 turret type, fixed type, and soft mount are installed on mounts of several different types of combat vehicles and ships. The weapon provides automatic weapon suppressive fire for offensive and defensive purposes. This weapon can be used effectively against personnel, light armored vehicles; low, slow flying aircraft; and small boats.

The M2 machine gun on the M3 tripod provided a very stable firing platform. Together with its slow rate of fire and its traversing and elevating mechanism, the M2 was used to a very limited extent as a sniper weapon during the Vietnam war at fixed installations such as firebases. Snipers preferred the weapons at identifiable targets and worked the data into range cards insuring increased first-round accuracy. The 1st Battalion, 5th Infantry, 25th Infantry Division constructed 20-30 foot high shooting platforms, adding steel base plates and posts to further stabilize the M2 on the M3 tripod. Together with the use of Starlight night vision scopes, the M2 severely limited enemy movement within 900 yards (1,000m) of the perimeter of a firebase.

The most recent innovation for the M-2 has come from the British, with the development of the M-2HB QCB, which has come into widespread use by all NATO nations using the M-2. Normally, the barrel on an M-2HB requires a great deal of tedious adjustments of headspace and timing, requiring hours on a bad day. By installing this quick-change kit, barrels on the M-2 can now be swapped out and replaced in under 15 seconds. This quick change kit adds \$9,650 to the cost of a standard M2HB. The M2 is used by the United States and 20 other nations worldwide.

Weapon	M-2 .50 Caliber Heavy Machine Gun			
Manufacturer	FN Manufacturing	Year	1933	
Nation	United States			
Caliber	.50 BMG	Mags	105 round belt	
Accuracy	Group	33cm @ 400m	MOA	
	Kill		Pen	
Velocity	810 m/s		Energy	
Weight	Empty	38 kg	ROF	SS 1
	Loaded	56.2kg		MB -
Length	1653 mm		Burst	-
Range	Effective	2000 m	Auto	150
	Max.	6800 m	Cyclic	600
Notes	Tripod and T&E mechanism weighs in at 20 kilograms.			



M-2 .50 CALIBER MACHINE GUN

Cyberthriller													
Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
M2HB .50 Caliber Machinegun	HVY	+1	N	M	.50 BMG	0	105	1[SS], 8[A], 25[C]	VR	2000	38+20	52.6+20	\$14,000
Special Rules	The +20 kg in weight represents the tripod, normally carried by a gunner's assistant.												

D20 System											
Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction	
M2HB .50 Caliber Machinegun	2d12	20	ballistic	660	SA,A	105B	Lrg	160 lb	27	Mil (+3)	
Special Rules											

FUDGE							
Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
M2HB .50 Caliber Machinegun	105	SA, A, C	Superb	Fair	9	\$14,000	
Special Rules							

Action!												
Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes	
M2HB .50 Caliber Machinegun	9d6	P/L	+1	+4	3	2000	1/25	105	72.6	\$14,000		
Special Rules:												

M-203 GRENADE LAUNCHER

The M203 is a 40mm grenade launcher designed to attach to an M16A1 rifle. Its development was an outgrowth from the Army's mid-century "wonder weapon", the SPIW. The SPIW was supposed to be very much like the OICW, a flechette gun combined with a 40mm grenade launcher, much like the OICW's 5.56mm rifle and 20mm cannon.

As the SPIW project advanced, the 40mm munitions were finalized and adopted by the US military. Along with this came a stand-alone launcher, the M-79 Bloop. The M79 was a well liked weapon, aside from its lack of accuracy. Unfortunately, its shortcoming was that the grenadier was normally issued a M1911A1 pistol as a secondary weapon, which was entirely insufficient on a fluid battle zone filled with automatic weapons. After four years in service, the US Army wanted a replacement for the M79 that allowed soldier to carry an automatic weapon. On other words, they wanted a replacement for the failing SPIW program.

The competition for the replacement for the M79 took place between 1965 and 1967, where the test weapons actually saw combat with the troops. During this period, the dominant weapon in the program was the XM-148 40mm grenade launcher designed by Colt. Several hundred of these launchers were manufactured and saw combat in Vietnam. During this time, several hundred XM-203 launchers also saw combat. In the end, the M-203 was the winner of the competition, and it has served in the US military for the last 36 years.

Older M-203 were designed specifically for fitting to the M-16A1 and M-16A2 rifles. It consists of a replacement handguard with an adjustable, folding, short-range blade sight assembly, and the mechanical package that composes the actual grenade launcher. Later a second sight fixture was made available. It is a quadrant sight which can be fitted to the carry handle on M16A1 and M16A2 rifles and is used when precision is required out to the maximum effective range of the weapon. The current manufacture of M203 grenade launchers are designed for use with the M4 SOPMOD Kit or the M16 Modular Weapon System. These M-203s are built to be compatible with the picatinny rails that replace the handguard on many M16A3 and M16A4 rifles or M4A1 carbines used by troops attached to USSOCOM.

In any case, the M203, no matter which form it may be, is a lightweight, compact, breech-loading, pump action, single shot greande launcher capable of firing a wide variety of 40 x 46 mm low velocity grenades.

As the 1970's progressed into the 1980's, the M203 went through a Product Improvement Program, resulting in the M203 PI. The manufacturer developed the rifle interface rail system, and early predecessor to the rail interface system now becoming a common feature on assault rifles. This rifle interface rail system removed the M203 from the molded handguard and placed it on a mounting unit. The manufacturer then created replacement handguards fitted for a wide variety of assault rifles, all of which were universally compatible with the mounts on the modified M203. A strange bonus is that the Ithaca Stakeout 12 ga. Shotgun fits the brackets as well. The M203 PI is also designed with a dual loading barrel slide. Hit the release once, and the barrel slides forward far enough to load the usual low velocity grenades made for the M203 and M79 launchers. Hit the slide a second time and the breech can be opened further, allowing the weapon to accept the longer high velocity rounds used in the Mk. 19 Grenade Machine Gun. However, the firing of the high velocity rounds, produces a terrible recoil, so soldiers willing to use those rounds in an M203 PI are few and far between.

The M203 PI is available in two formats, long and short barreled. The M203 PI Long is designed to be mounted underbarrel to most full sized traditional format assault rifles. The M203 PI Short is designed to be affixed to carbines and bullpup layout rifles.

Weapon		M203 Grenade Launcher				
Manufacturer	Colt	Year	1965			
Nation	United States					
Caliber	40x46mm LV grenade	Mags	1			
Accuracy	Group			MOA		
	Kill			Pen		
Velocity	76 m/s		Energy			
Weight	Empty	1.36 kg	ROF	SS	1	
	Loaded	1.63 kg		MB	-	
Length	389 mm				Burst	-
Range	Minimum	4 m		Auto	-	
	Max.	400 m		Cyclic	-	
	Notes					
Empty/loaded weight does not account for the rifle the M-203 needs to be attached to in order to function. A fully loaded M16A2 with M203 weighs in at 5.35kg.						

Weapon		M203 Grenade Launcher PI Long				
Manufacturer	Colt, Bushmaster	Year	1982			
Nation	United States					
Caliber	40x46mm LV grenade	Mags	1			
Accuracy	Group			MOA		
	Kill			Pen		
Velocity	76 m/s		Energy			
Weight	Empty	1.36 kg	ROF	SS	1	
	Loaded	1.63 kg		MB	-	
Length	381 mm				Burst	-
Range	Minimum	4 m		Auto	-	
	Max.	400 m		Cyclic	-	
	Notes					
Empty/loaded weight does not account for the rifle the M-203 needs to be attached to in order to function. A fully loaded M16A2 with M203 weighs in at 5.35kg.						

Weapon		M203 Grenade Launcher PI Short				
Manufacturer	Colt, Bushmaster	Year	1982			
Nation	United States					
Caliber	40x46mm LV grenade	Mags	1			
Accuracy	Group			MOA		
	Kill			Pen		
Velocity	76 m/s		Energy			
Weight	Empty	1.36 kg	ROF	SS	1	
	Loaded	1.63 kg		MB	-	
Length	305 mm				Burst	-
Range	Minimum	4 m		Auto	-	
	Max.	400 m		Cyclic	-	
	Notes					
Empty/loaded weight does not account for the rifle the M-203 needs to be attached to in order to function. A fully loaded M16A2 with M203 weighs in at 5.35kg.						

M-203 GRENADE LAUNCHER



M-16 Fitted with an M203



M203 Fitted to an F88



U.S. Soldier aiming an M16/M203, for scale reference

M-203 GRENADE LAUNCHER

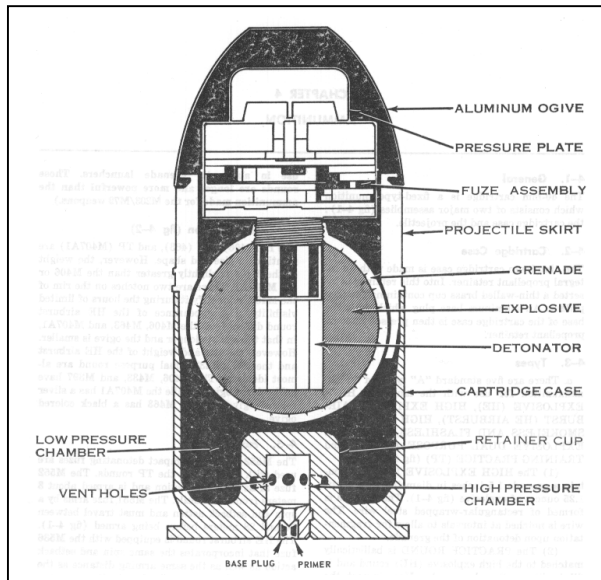
M203 MUNITIONS

M381 / M386 / M406 / M441 High Explosive Grenade

This is the most common grenade available for the M203. It is a high explosive, fragmenting grenade, capable of producing serious casualties within a five meter radius of the point of detonation. The M381 is the original round, with an fuse arming range of only 2.4 to 3 meters.

Munition	M381, M386, M406, M441
Type	HE Fragmenting
Direct Fire Range	120m
Indirect Fire Range	400 m
Weight	0.228 kg
Penetration	-
Blast Radius	5m

This means the round is capable of producing a lot of friendly fire injuries since the grenade arms while the grenadier is still within its burst radius. This in turn lead to the M386 and M406 grenades, with improved fusing technology. They both will not arm until the round has travelled 14 to 28 meters from the muzzle of the launcher. Otherwise, the M386 and M406 perform identically to the M381. Both grenades produce casualties in a 5 meter radius of their point of detonation. The rounds are impact fused, so they detonate upon impact with the ground or some other sufficiently hard surface. The M441 is identical to the M381, right down to the 3 meter arming range. The only difference is the explosive filler used.



M397 High Explosive Airburst Grenade

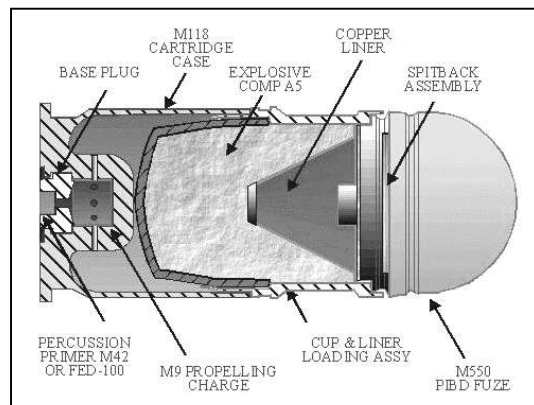
Munition	M397
Type	HEAB Fragmenting
Direct Fire Range	120m
Indirect Fire Range	400 m
Weight	0.23 kg
Penetration	-
Blast Radius	5m

The M397 grenade is essentially an M386 grenade with a different fuse. The round is fused for airburst detonation, exploding once it reaches the point in its descent in which it is 2 meters above the ground. Unfortunately, unlike most airburst munitions, this does not produce any significant increase in the casualty production radius of the grenade, which remains a mere five meters for this grenade type.

M433 High Explosive Dual Purpose Grenade

This round is designed to provide anti-armor capabilities against many of the very thinly armored "armored" vehicles that were common in the late 1950's and early 1960's. The round is capable of the same five meter casualty production fragmentation burst radius as the more common M381, but when fired directly against an armored target, this round will ablate 55 millimeters of rolled homogenous armor (RHA). Currently, the U.S. military is standardizing with the HEDP round and will be phasing out most of the other explosive 40mm low velocity launched grenades in their inventory.

Munition	M443
Type	HEDP
Direct Fire Range	120m
Indirect Fire Range	400 m
Weight	0.228 kg
Penetration	55 mm
Blast Radius	5m



M-203 GRENADE LAUNCHER

M435 White Phosphorus Grenade

Munition	M435
Type	WP
Direct Fire Range	120m
Indirect Fire Range	400 m
Weight	0.228 kg
Penetration	-
Blast Radius	10m

Upon impact, this grenade round explodes, distributing both normal aluminum fragments of more common HE grenades and fragments of white phosphorus. Upon contact with the open air, the phosphorus begins combusting and will continue to do so until consumed. These fragments will burn for 40 to 60 seconds, even after being covered in materials that separate it from the air, such as blood. As long as oxygen is available to continue the process, the burning will continue. Due to the phosphorus fragments, the casualty production blast radius for this type of grenade is 10 meters.

M439 White Phosphorus Airbursting Grenade

Munition	M439
Type	WPAB
Direct Fire Range	120m
Indirect Fire Range	400 m
Weight	0.228 kg
Penetration	-
Blast Radius	12m

This grenade is essentially identical to the M435, except for the fusing technology utilized in it. The M439 will detonate when two meters off the ground. Unlike the M397, the M439 does produce an expanded casualty producing blast radius due to it burst in the air rather than on the ground, extending the blast radius by an additional 2 meters.

M576 Multiple Projectile Round

Munition	M439
Type	WPAB
Direct Fire Range	120m
Indirect Fire Range	400 m
Weight	0.228 kg
Penetration	-
Blast Radius	12m

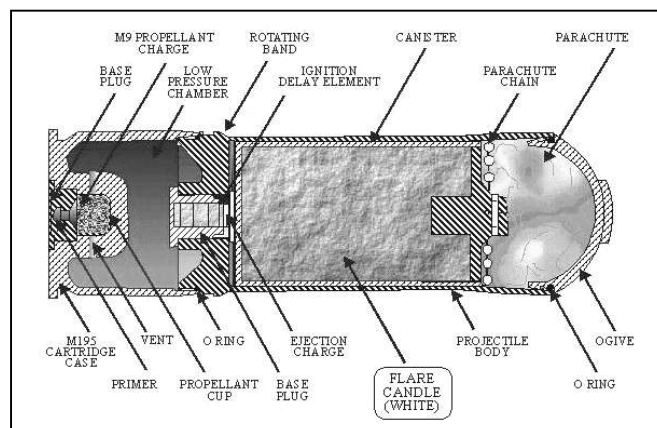
This particular munition for the M203 isn't actually a grenade. This close quarters combat round contains 27 00 buckshot pellets sheathed in a plastic sabot. It was originally designed for the M79 Bloop, to compensate for the M1911A1 pistol that grenadiers carried as a secondary weapon. However, even firing one of these rounds off every few seconds wasn't sufficient compensation for the lack of an automatic weapon in the grenadier's hands. But that wasn't quite the death knell for this munition. The US Army uses shotguns as their primary door / room breaching tool in urban warfare scenarios. The shotguns issued are easily capable of completely destroying the entire door knob assemble in most doors with a single shot. The M576 can be capable of the same breaching capacity.

M583 / M661 / M662 / M695 Star Parachute Flare

Munition	M439
Type	WPAB
Direct Fire Range	120m
Indirect Fire Range	400 m
Weight	0.228 kg
Penetration	-
Blast Radius	12m

The M583 White Star Parachute Flare is the primary illumination flare for the M203. Fired into the air, "bursting" at an altitude of 550 feet, the flare

deploys a parachute at its apex and ignites the illuminant fill. The round will then descend at a rate of roughly 2 meters per second, burning for 40 seconds before the illuminant is completely consumed. It is also used for signalling. The M583 illuminates in white. Additionally, there is also the M661 Green Star Parachute Flare which illuminates in green, The M662 Red Star Parachute Flare, and the M695 Orange Star Parachute Flare.



M-203 GRENADE LAUNCHER

Cyberthriller													
Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
M-203 Grenade Launcher	ACC	-2	-	M	40mm	0	1	1/2	VR	-	1.36	1.63	\$505
M-203PI Long	ACC	-2	-	M	40mm	0	1	1/2	VR	-	1.1	1.37	\$601
M-203PI Short	ACC	-2	-	M	40mm	0	1	1/2	VR	-	0.97	1.24	\$601
M381 HE Grenade	-	0	-	M	4D6, 5m	-	-	-	VR	400	-	0.25	\$50
M386	-	0	-	M	4D6, 5m	-	-	-	VR	400	-	0.25	\$50
M406	-	0	-	M	4D6, 5m	-	-	-	VR	400	-	0.25	\$50
M441	-	0	-	M	4D6, 5m	-	-	-	VR	400	-	0.25	\$50
M397 HEAB Grenade	-	0	-	M	4D6, 5m	-	-	-	VR	400	-	0.25	\$55
M433 HEDP Grenade	-	+1	-	M	55mm, 5D6, 5m	-	-	-	VR	400	-	0.25	\$70
M435 WP Grenade	-	0	-	M	8D6, 10m	-	-	-	VR	400	-	0.25	\$75
M439 WPAB Grenade	-	0	-	M	8D6, 12m	-	-	-	VR	400	-	0.25	\$80
M576 Multiple Projectile	-	+2	-	M	4D10	-	-	-	VR	400	-	0.25	\$20
M583 / M661 / M662 / M695 Star Parachute Flare	-	+2	-	M	-	-	-	-	VR	400	-	0.25	\$20
Special Rules													

D20 System												
Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction		
M-203 Grenade Launcher	-	-	-	-	SS	1	Sm	3 lb	15	Mil (+3)		
M-203PI Long	-	-	-	-	SS	1	Sm	2 lb	15	Mil (+3)		
M-203PI Short	-	-	-	-	SS	1	Sm	2 lb	15	Mil (+3)		
M381 HE Grenade	4d6, 15'	-	slashing	130	-	-	Sm	0.5 lb	7	Mil (+3)		
M386	4d6, 15'	-	slashing	130	-	-	Sm	0.5 lb	7	Mil (+3)		
M406	4d6, 15'	-	slashing	130	-	-	Sm	0.5 lb	7	Mil (+3)		
M441	4d6, 15'	-	slashing	130	-	-	Sm	0.5 lb	7	Mil (+3)		
M397 HEAB Grenade	4d6, 15'	-	slashing	130	-	-	Sm	0.5 lb	7	Mil (+3)		
M433 HEDP Grenade	6d6, 15'	-	slashing	130	-	-	Sm	0.5 lb	8	Mil (+3)		
M435 WP Grenade	6d6, 30'	-	fire	130	-	-	Sm	0.5 lb	8	Mil (+3)		
M439 WPAB Grenade	6d6, 35'	-	fire	130	-	-	Sm	0.5 lb	9	Mil (+3)		
M576 Multiple Projectile	4d8	20	ballistic	130	-	-	Sm	0.5 lb	4	Mil (+3)		
M583 / M661 / M662 / M695 Star Parachute Flare	-	-	-	130	-	-	Sm	0.5 lb	4	Mil (+3)		
Special Rules: The HEDP grenade has a PEN 1, meaning it ignores 1 point of hardness when fired at a vehicle.												

FUDGE							
Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
M-203 Grenade Launcher	1	SS	-	Fair	-	\$505	
M-203PI Long	1	SS	-	Fair	-	\$601	
M-203PI Short	1	SS	-	Fair	-	\$601	
M381 HE Grenade	-	-	Fair	Fair	6	\$50	
M386	-	-	Fair	Fair	6	\$50	
M406	-	-	Fair	Fair	6	\$50	
M441	-	-	Fair	Fair	6	\$50	
M397 HEAB Grenade	-	-	Fair	Fair	6	\$55	
M433 HEDP Grenade	-	-	Fair	Fair	7	\$70	
M435 WP Grenade	-	-	Fair	Fair	7	\$75	
M439 WPAB Grenade	-	-	Fair	Fair	7	\$80	
M576 Multiple Projectile	-	-	Fair	Fair	8	\$20	
M583 / M661 / M662 / M695 Star Parachute Flare	-	-	Fair	Fair	-	\$20	
Special Rules							

M-203 GRENADE LAUNCHER

Action!											
Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
M-203 Grenade Launcher	-	-	-	-	3	-	1	1	1.63	\$505	
M-203PI Long	-	-	-	-	3	-	1	1	1.37	\$601	
M-203PI Short	-	-	-	-	3	-	1	1	1.24	\$601	
M381 HE Grenade	6d6	P/L	-1	0	-	400	-	-	0.25	\$50	
M386	6d6	P/L	-1	0	-	400	-	-	0.25	\$50	
M406	6d6	P/L	-1	0	-	400	-	-	0.25	\$50	
M441	6d6	P/L	-1	0	-	400	-	-	0.25	\$50	
M397 HEAB Grenade	7d6	P/L	-1	0	-	400	-	-	0.25	\$55	
M433 HEDP Grenade	5d6 (5)	P/L	-1	0	-	400	-	-	0.25	\$70	
M435 WP Grenade	Note	P/L	-1	0	-	400	-	-	0.25	\$75	
M439 WPAB Grenade	Note	P/L	-1	0	-	400	-	-	0.25	\$80	
M576 Multiple Projectile	6d6	P/L	-1	0	-	400	-	-	0.25	\$20	
M583 / M661 / M662 / M695 Star Parachute Flare	-	-	-1	0	-	400	-	-	0.25	\$20	
Special Rules:	M435 and M439 grenades produce penetrating fragments of phosphorous. These grenades produce 4d6 damage initially. However, as the WP combusts, it will continue doing damage to the victims for up to an hour. Over the next three rounds, the damage will be +1d6 per round. After that, the combustions slows to a slow burning, which will do 1d6 per 10 minutes for up to an hour. To determine how long it continues, divide the original damage from the grenade by 4 and round up. This gives you the number of 10 minute periods the burning will continue.										

M240 GPMG / FN HERSTAL MAG-58

During the Vietnam War, the United States military was plagued by the flaws of its medium machine guns, the M60, M219, and M73. When these weapons were selected to replace their World War II predecessors in the 1950's, they were not combat proven and seemed to be perfectly suitable weapons. Only after the United States fully entered the Vietnam War did the flaws become apparent. With the M60, the major problems involved overheating and design flaws that made barrel changes impossible without assistance. The M73 and M219, vehicular machine guns used in coaxial and pintle mounts on ground vehicles and in aircraft, wore out and quickly broke down at such a high rate that replacement parts could not be reliably supplied. M60 tank platoons frequently were forced to build one functional M73 out of the five or so inoperable M73s in the unit, then swap that one working weapon from tank to tank during practice maneuvers. Needless to say, this was unacceptable, even after the M73 was redesigned as the M73E1 and reclassified the M219 due to its lack of parts interchangeability with the older M73s.

By 1974, the deficiencies of these machine guns lead to a competition to replace them. Involved in this three year program were the FN MAG 58, Saco M60E2, H&K MG3, British L7A1 variant of the FN MAG 58, French AAT NF1 (vehicular version of the AAT 52), Canadian C1 (Browning M1919A4 rechambered to the 7.62mm NATO cartridge) and amazingly enough, the Soviet PKM. Within a year, all but the MAG 58 and M60E2 were eliminated. The program required both MRBS (Mean Rounds Before Stoppage) and MRBF (Mean Rounds Before Failure) standards to be met. The Army required the MRBS of 850 rounds and MRBF of 2,675 rounds, but preferred the weapons reach 1,750 rounds for the MRBS and 5,500 rounds for the MRBF. The flawed M219 managed an MRBS of 215 rounds and an MRBF of 1,090 rounds. The M60E2 managed an MRBS of 846 rounds and an MRBF of 1,669 rounds. The MAG 58 managed an MRBS of 2,962 rounds and an MRBF of 6,442 rounds, far exceeding the desired "dream sheet" specifications and proving itself the most reliable weapon available. Once the order was placed, the first 10,000 weapons were imported from Belgium, while every weapon manufactured for the DoD since has been manufactured inside the United States.

The M240 came along in 1977, initially as part of the standard arsenal of the brand new M1 Abrams Main Battle Tank. The M240 was a dream in comparison to its immediate predecessors, and rapidly became the standard 7.62mm medium/general purpose machine gun for use on all vehicles. Astonishingly, the M240's design is actually older than the M73s and M219s that it replaced. The M240 is known to the rest of the world's militaries as the FN Herstal MAG 58, or Mitrailleuse d'Appui General model 1958. Choosing the MAG 58 wasn't a simple process; it competed for a number of years against a wide range of medium caliber machine guns from around the world. Nor has the United States simply settled for the weapon they chose in 1977. It has evolved over time, going through a number of improvements. The first improvement was the M240C. The M240 feeds from the left and ejects right, while the M240C feeds from the right and ejects left. As the M240 was retrofitted into older vehicles that used the M73 or M219, the feed direction of the M240 caused some problems. With the high level of parts interchangeability, all weapons of the M240 family can be converted to this right hand feed with parts from the M240C. That wasn't the end of the vehicle mounted M240's. To fit pintle mounts, they deployed the M240E1, which is fitted with a trigger assembly with spade grips and a carry handle. Close in design to the M240E1 is the M240D, designed for mounting in helicopters as a door gunner kit. And of course, the US Navy needed its own pintle-mounted version for use aboard small watercraft and it had to be unique from the rest. Unlike the other branches of the military, who had purchased configurations developed by FN Herstal, the Navy built its own variant of the weapon from parts it purchased, rather than buying complete weapons. The M240N uses the barrel of the D and G models, the pistol grip trigger assembly of the B and G models, and the buttstock and buffer assembly of the M240B. However, FN Herstal added the M240N to its product line on an unofficial basis. As the war on terrorism ramped up, the US Army's Tank-Automotive and Armaments Command issued a contract to supply to deliver 825 M240Ns between December 2001 and November 2002 as an urgent requirement.

Weapon	M-240, M-240C				
Manufacturer	FN Herstal	Year	1977-		
Nation	Belgium, United States				
Caliber	7.62 x 51mm NATO		Mags	100 Belt	
Accuracy	Group	18.5 cm @ 400 m		MOA	
	Kill			Pen	
Velocity	853 m/s		Energy		
Weight	Empty	10.34kg	ROF	SS	
	Loaded	13.33kg		MB	-
Length	1047 mm			Burst	6
Range	Effective	800 m	Auto	200	
	Max.	3725 m	Cyclic	750+	
	M240 feed left, ejects right, M240C feeds right, ejects left. Loaded weight reflects a 100 round belt (2.99 kg). Egress kit adds 0.7 kg and extends the weapon's length to 1245 mm.				

Weapon	M-240D				
Manufacturer	FN Herstal	Year	1984-		
Nation	Belgium, United States				
Caliber	7.62 x 51mm NATO		Mags	100 Belt	
Accuracy	Group	18.5 cm @ 400 m		MOA	
	Kill			Pen	
Velocity	853 m/s		Energy		
Weight	Empty	10.39kg	ROF	SS	
	Loaded	19.84kg		MB	-
Length	1047 mm			Burst	6
Range	Effective	800 m	Auto	200	
	Max.	3725 m	Cyclic	750+	
	Loaded weight reflects a 250 round belt in an ammunition box that clips to the side of the weapon (9.45 kg). Egress kit adds 0.7 kg and extends the weapon's length to 1245 mm.				

Weapon	M-240B				
Manufacturer	FN Herstal	Year	1989-		
Nation	Belgium, United States				
Caliber	7.62 x 51mm NATO		Mags	100 Belt	
Accuracy	Group	18.5 cm @ 400 m		MOA	
	Kill			Pen	
Velocity	853 m/s		Energy		
Weight	Empty	12.3 kg	ROF	SS	
	Loaded	15.3 kg		MB	-
Length	1219 mm			Burst	6
Range	Effective	800 m	Auto	200	
	Max.	3725 m	Cyclic	750+	
	Loaded weight reflects a 100 round belt.				

Weapon	M-240G				
Manufacturer	FN Herstal	Year	1989-		
Nation	Belgium, United States				
Caliber	7.62 x 51mm NATO		Mags	100 Belt	
Accuracy	Group	18.5 cm @ 400 m		MOA	
	Kill			Pen	
Velocity	853 m/s		Energy		
Weight	Empty	11.7 kg	ROF	SS	
	Loaded	14.7 kg		MB	-
Length	1219 mm			Burst	6
Range	Effective	800 m	Auto	200	
	Max.	3725 m	Cyclic	750+	
	Loaded weight reflects a 100 round belt.				

M240 GPMG / FN HERSTAL MAG-58

While the M240 was originally a purely vehicle mounted weapon system, the weapon had an unprecedented modularity, allowing FN to also provide an "egress kit". This is a bag of conversion parts that allows a vehicle crew to abandon their vehicle, but take the M240 with them and use it as a flexible medium machine gun in a self-defense role. The egress kit consists of a buttstock, trigger assembly/pistol grip, and bipod. This egress kit eventually lead to the M240 becoming an infantry weapon in the 1990's. The U.S. Army was the first to adopt an infantry version of the M240, designated as the M240B. This version of the M240 is fitted with a forearm grip assembly, complete with a heat shield barrel shroud, carry handle, trigger assembly with pistol grip, Buttstock with hydraulic recoil buffer, and a hefty bipod. The Marines, late in adopting the M240 for their infantry, opted for the weapon designated the M240G, a lighter version of the infantry model that has no heat shield enshrouding the barrel or buffer, and is fitted with an adapter for mounting night vision equipment. The bipod is used in either the open or folded position as a fore grip in the stead of the heat guard/forearm assembly of the M240B.

This may sound like a lot of variants, but it is more a matter of modularity. Someone could scrounge battlefield ruins, pull the receiver of an M240C, fit it with the spade grip trigger assembly of an M240D, the barrel of an M240, the bipod of an M240B and the night vision adapter of the M240G. At the weapon's core is a receiver assembly filled with the action of the M1918 Browning Automatic Rifle, flipped upside down and adapted to a belt feed mechanism. To this receiver, everything else is attached; the trigger assembly with grip, barrels, gas tube, feed mechanism, sighting system adapters. The weapon is made of as many steel stampings and pressed parts as possible, greatly reducing the cost but resulting in an angular, business-like appearance. The weapon is also heavy on the chrome plating, with the inside of the receiver, the barrel lining, and several other internal components plated with chrome to better withstand the fouling and wear and tear of firing. Chambered to NATO's 7.62mm caliber, the M240 on average fires 26,000 rounds of ammunition before it suffers a parts failure, according to the manufacturer. Being riveted and welded, the receiver itself begins failing around 70,000 rounds. The gun will continue operating at this point, until at some point between 90,000 and 110,000 round fired, the riveted side plate fails and the entire action ejects itself out the side of the receiver with the next round fired. This particular problem became apparent in the 1980's during the civil warfare and rebellion in El Salvador, where weapon maintenance took the back seat on the bus.

The M240B and M240G weapons uses a long stroke piston gas system with two regulator settings for 650 and 950 rpm cyclic settings. These settings are not meant to select a rate of fire for combat, but instead to compensate for the fouling and debris that builds up inside the weapon in combat. Switching the setting taps more gas as the gun fires, to the higher rate of fire taps more gas from the firing of a round, allowing the gun to overcome the jamming problems that could occur from fouling in the gun. The M240N uses a slightly different regulator with 750 and 950 rpm settings. The vehicle mounted M240s and M240Cs use a different gas system that does not vent any gas out of the gun as exhaust, which would quickly create a potentially lethally contaminated environment inside a vehicle. All gas generated by the gun vents out the barrel. The gas regulator on this system provides three settings, allowing the gunner to select a rate of fire of either 750, 850, or 950 rounds per minute.

The Marines pay \$6,600 for their M240Gs, while the vast rearmament program of the U.S. Army to fit the M240 on its tens of thousands of vehicles as well as replacing thousands of M60 GPMGs allowed them to purchase the bulk of their M240 models at a price of \$2,495. Army replacement costs, however, are as high as the Marines at this point, at \$6,600.

Weapon		M-240N	
Manufacturer	FN Herstal	Year	1989-
Nation	Belgium, United States		
Caliber	7.62 x 51mm NATO	Mags	100 Belt
Accuracy	Group	18.5 cm @ 400 m	MOA
	Kill		Pen
Velocity	853 m/s		Energy
Weight	Empty	10.93kg	ROF
	Loaded	13.92kg	SS
Length	1219 mm		MB
Range	Effective	800 m	Burst
	Max.	3725 m	Auto
			Cyclic
Notes	Loaded weight reflects a 100 round belt.		

Weapon		M-240E1	
Manufacturer	FN Herstal	Year	1984-
Nation	Belgium, United States		
Caliber	7.62 x 51mm NATO	Mags	100 Belt
Accuracy	Group	18.5 cm @ 400 m	MOA
	Kill		Pen
Velocity	853 m/s		Energy
Weight	Empty	11.66kg	ROF
	Loaded	21.11kg	SS
Length	1047 mm		MB
Range	Effective	800 m	Burst
	Max.	3725 m	Auto
			Cyclic
Notes	Loaded weight reflects a 250 round belt in an ammunition box that clips to the side of the weapon (9.45 kg). Egress kit adds 0.7 kg and extends the weapon's length to 1245 mm.		

Weapon		MAG-58	
Manufacturer	FN Herstal	Year	1955-
Nation	Belgium		
Caliber	7.62 x 51mm NATO	Mags	100 Belt
Accuracy	Group	18.5 cm @ 400 m	MOA
	Kill		Pen
Velocity	853 m/s		Energy
Weight	Empty	10.85kg	ROF
	Loaded	13.84kg	SS
Length	1260 mm		MB
Range	Effective	660 m	Burst
	Max.	3725 m	Auto
			Cyclic
Notes	Loaded weight reflects a 100 round belt.		

Weapon		Ksp. 58 Mauser	
Manufacturer	FN Herstal	Year	1958
Nation	Belgium (for Sweden)		
Caliber	6.5 x 55 mm Mauser	Mags	50 Belt
Accuracy	Group	18.5 cm @ 400 m	MOA
	Kill		Pen
Velocity	853 m/s		Energy
Weight	Empty	11 kg	ROF
	Loaded	11.8 kg	SS
Length	1260 mm		MB
Range	Effective	800 m	Burst
	Max.	3725 m	Auto
			Cyclic
Notes	Loaded weight reflects a 50 round belt.		

M240 GPMG / FN HERSTAL MAG-58

Of the many variants of the M240, the M240G fielded by the US Marines is the closest to the MAG-58 as it was first deployed in 1958. These weapons were made of as many parts milled from solid steel as possible, as opposed to the later Pentagon-mandated cost-cutting measures that lead to the stamped and welded components common today. The MAG-58 also uses a more advanced exhaust-type gas piston system with a four position regulator which allows the rate of fire to be set to 650 (fully open), 750, 900 and a highly stressful 1100 (fully closed) rounds per minute. M240s are manufactured to accept the US M13 Disintegrating link belt, while MAG 58s are manufactured to accept either the US M13 disintegrating link belts or the German DM6 nondisintegrating belt. Models made to fire the DM6 belts can be modified to use the M13 belts, but at a cost of reliability.

The FN MAG is used by a wide range of nations around the world, including most of the nations of NATO. Many of those nations also field their own variants of the weapon as well.

The British designate the series as the L7 series General Purpose Machine Gun, which during the trials to replace the M219, proved inferior to the standard MAG 58. After this loss in the competition, the weapon was modified, particularly the feed mechanism, into the superior L7A2 version. L7A1s were issued with 200 round belts of ammunition, while L7A2s are issued with 50-round belts in ammunition boxes that clip to the side of the machine gun.

The Canadians designate it as the C6 machine gun, which are virtually identical to the M240 series, giving the Canadians almost complete parts compatibility with U.S. inventories. The Canadians issue their C6 GPMGs with 220 round ammunition belts.

Sweden designates it as the Ksp 58, and when originally fielded in 1958, used a version chambered for the 6.5 x 55mm Mauser cartridge. Once the AK4 was adopted as the Swedish assault rifle, the Ksp 58s were all refitted to NATO's 7.62 x 51mm cartridge. Ammunition is issued in belts of 50 rounds, usually in an ammunition box containing five belts.

All versions of the FN MAG and M240 suffer a single serious problem in the fashion in which the bipod is attached using a pin passing through the gas tube. Frequently overlooked, unless the bipod and this pin is removed, it is impossible to clean the end of the gas tube when performing a fully cleaning and general maintenance of the weapon. Debris will build up, eventually clogging the entire end of the gas tube and fusing around the bipod retaining pin, adversely affecting the weapon's performance and making it very difficult to remove the bipod to finally clean the weapon properly.

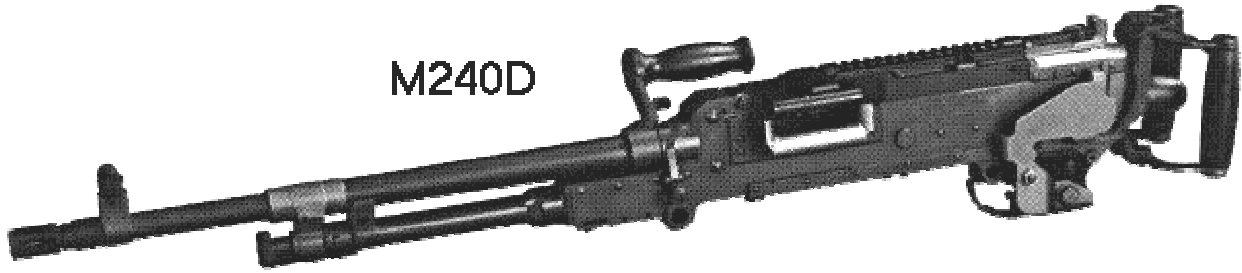
Weapon	L7A2 General Purpose Machinegun		
Manufacturer	Royal Ordnance PLC	Year	1969
Nation	Great Britain		
Caliber	7.62 x 51mm NATO	Mags	100 Belt
Accuracy	Group	18.5 cm @ 400 m	MOA
	Kill		Pen
Velocity	838 m/s		Energy
Weight	Empty	10.9 kg	ROF
	Loaded	13.61kg	SS
Length	1232 mm		MB
			Burst
Range	Effective	800 m	Auto
	Max.	3725 m	Cyclic
Notes	Loaded weight reflects a 100 round belt of British manufacture, which weighs 2.73 kg, compared to the 2.99 kg of the American equivalent..		

Weapon	C6 General Purpose Machinegun		
Manufacturer	FN Herstal	Year	1978
Nation	U.S. (for Canada)		
Caliber	7.62 x 51mm NATO	Mags	220 Belt
Accuracy	Group	18.5 cm @ 400 m	MOA
	Kill		Pen
Velocity	838 m/s		Energy
Weight	Empty	11 kg	ROF
	Loaded	16.4 kg	SS
Length	1255 mm		MB
			Burst
Range	Effective	800 m	Auto
	Max.	3725 m	Cyclic
Notes	Loaded weight reflects a 220 round belt, which weighs 5.4 kg.		



M240 GPMG / FN HERSTAL MAG-58

M240D



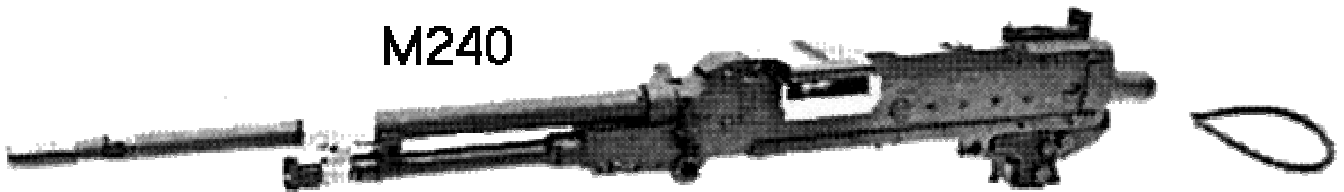
Canadian C6 GPMG



M240G



M240



M240 GPMG / FN HERSTAL MAG-58

Cyberthriller													
Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
M240	HVY	+4	N	M	7.62 N	0	100+	6 [AB], 10 [A], 37 / 42 / 47 [C]	VR	800	10.34	13.33	\$6600
M240C	HVY	+4	N	M	7.62 N	0	100+		VR	800	10.34	13.33	\$6600
M240D	HVY	+4	N	M	7.62 N	0	250+		VR	800	10.39	19.84	\$6600
M240E1	HVY	+4	N	M	7.62 N	0	250+		VR	800	11.66	21.11	\$6600
M240B	HVY	+4	N	M	7.62 N	0	100+	6 [AB], 10 [A], 32 / 47 [C]	VR	800	12.3	15.3	\$6600
M240G	HVY	+4	N	M	7.62 N	0	100+		VR	800	11.7	14.7	\$6600
M240N	HVY	+4	N	M	7.62 N	0	250+	6 [AB], 10 [A], 37 / 47 [C]	VR	800	10.93	13.92	\$7093
MAG 58	HVY	+4	N	M	7.62 N	0	100+	6 [AB], 10 [A], 32 / 37 / 45 / 55 [C]	VR	660	10.85	13.84	\$5833
Ksp 58 NATO	HVY	+4	N	M	7.62 N	0	50+		VR	660	11	11.8	\$6600
Ksp 58 Mauser	HVY	+4	N	M	M94-41	0	50+	VR	660	10.6	11.4	\$2495	
C-6	HVY	+4	N	M	7.62 N	0	220+	6 [AB], 10 [A], 32 / 47 [C]	VR	800	11	16.4	\$10,000
L7A2	HVY	+4	N	M	7.62 N	0	100+		VR	800	10.9	13.61	\$5947
Special Rules	Typical maximum effective range is 800 meters for point target fire and 1,800 meters for area target fire. The weapons can also be used to provide grid-based volume of fire indirect fire support accurately to a range of 3,000 meters.												

D20 System											
Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction	
M240	2d10	20	Ballistic	245	A	100B	Lrg	29 lb	25	Mil (+3)	
M240C	2d10	20	Ballistic	245	A	100B	Lrg	29 lb	25	Mil (+3)	
M240D	2d10	20	Ballistic	245	A	250B	Lrg	43.5 lb	25	Mil (+3)	
M240E1	2d10	20	Ballistic	245	A	250B	Lrg	46.5 lb	25	Mil (+3)	
M240B	2d10	20	Ballistic	245	A	100B	Lrg	33.5 lb	25	Mil (+3)	
M240G	2d10	20	Ballistic	245	A	100B	Lrg	32.5 lb	25	Mil (+3)	
M240N	2d10	20	Ballistic	245	A	250B	Lrg	30.5 lb	25	Mil (+3)	
MAG 58	2d10	20	Ballistic	200	A	100B	Lrg	30.5 lb	25	Mil (+3)	
Ksp 58 NATO	2d10	20	Ballistic	200	A	50B	Lrg	26 lb	25	Mil (+3)	
Ksp 58 Mauser	2d10	20	Ballistic	200	A	50B	Lrg	25 lb	21	Mil (+3)	
C-6	2d10	20	Ballistic	245	A	220B	Lrg	36 lb	26	Mil (+3)	
L7A2	2d10	20	Ballistic	245	A	100B	Lrg	30 lb	24	Mil (+3)	
Special Rules	Typical maximum effective range is 800 meters for point target fire and 1,800 meters for area target fire. The weapons can also be used to provide grid-based volume of fire indirect fire support accurately to a range of 3,000 meters.										

FUDGE							
Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
M240	100	A, C	Superb	Great	5	\$6600	
M240C	100	A, C	Superb	Great	5	\$6600	
M240D	250	A, C	Superb	Great	5	\$6600	
M240E1	250	A, C	Superb	Great	5	\$6600	
M240B	100	A, C	Superb	Great	5	\$6600	
M240G	100	A, C	Superb	Great	5	\$6600	
M240N	250	A, C	Superb	Great	5	\$7093	
MAG 58	100	A, C	Great	Great	5	\$5833	
Ksp 58 NATO	50	A, C	Great	Great	5	\$6600	
Ksp 58 Mauser	50	A, C	Great	Great	4	\$2495	
C-6	220	A, C	Superb	Great	5	\$10,000	
L7A2	100	A, C	Superb	Great	5	\$5947	
Special Rules							

M240 GPMG / FN HERSTAL MAG-58

Action!											
Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
M240	6d6+2	P/L	+3	+2	4	800	2/*	100+	13.33	\$6600	*Maximum ROF can be set to 37, 42, or 47
M240C	6d6+2	P/L	+3	+2	4	800	2/*	100+	13.33	\$6600	*Maximum ROF can be set to 37, 42, or 47
M240D	6d6+2	P/L	+3	+2	4	800	2/*	250+	19.84	\$6600	*Maximum ROF can be set to 37, 42, or 47
M240E1	6d6+2	P/L	+3	+2	4	800	2/*	250+	21.11	\$6600	*Maximum ROF can be set to 37, 42, or 47
M240B	6d6+2	P/L	+3	+2	4	800	2/*	100+	15.3	\$6600	*Maximum ROF can be set to 32 or 47
M240G	6d6+2	P/L	+3	+2	4	800	2/*	100+	14.7	\$6600	*Maximum ROF can be set to 32 or 47
M240N	6d6+2	P/L	+3	+2	4	800	2/*	250+	13.92	\$7093	*Maximum ROF can be set to 37 or 47
MAG 58	6d6+2	P/L	+3	+2	4	660	2/*	100+	13.84	\$5833	*Maximum ROF can be set to 32, 37, 45, or 55
Ksp 58 NATO	6d6+2	P/L	+3	+2	4	660	2/*	50+	11.8	\$6600	*Maximum ROF can be set to 32, 37, 45, or 55
Ksp 58 Mauser	5d6	P/L	+3	+2	4	660	2/*	50+	11.4	\$2495	*Maximum ROF can be set to 32, 37, 45, or 55
C-6	6d6+2	P/L	+3	+2	4	800	2/*	220+	16.4	\$10,000	*Maximum ROF can be set to 32 or 47
L7A2	6d6+2	P/L	+3	+2	4	800	2/*	100+	13.61	\$5947	*Maximum ROF can be set to 32 or 47
Special Rules:	Typical maximum effective range is 800 meters for point target fire and 1,800 meters for area target fire. The weapons can also be used to provide grid-based volume of fire indirect fire support accurately to a range of 3,000 meters.										

M-249 SAW / MINIMI LMG

With the retirement of the .30 caliber Browning Automatic Rifle in the 1950's, the US Army created a void in its arsenal for a squad level weapon that would function as a "base of fire". At the time, it was hoped that the M14 carbines then in service would suit that purpose, but they failed miserably at the task, as did the M-16 that followed less than 10 years later. For a time, the M60 medium machine gun was assigned to the task of Squad Automatic Weapon, but it proved to be too cumbersome to readily field on a squad level. As the Vietnam War was winding down to a close, the M-16A1 was given another chance, in the form of the M-16A1 LMG, which was a weapon with great potential that was outweighed by its numerous problems.

Finally, after the Vietnam War ended, the US Army truly focused on finding the right "base of fire" weapon, one that was accurate and capable of surviving sustained fire, to issue on the squad level, and they were highly successful at it. Over the course of a five year period between 1977 and 1982, the FN Herstal Minimi was developed, as was the SS109 round designed for it. The SS109 was adopted by NATO as its standard light caliber munition in competitions spanning 1977 to 1979, and the Minimi Light Machinegun design was finalized and selected as the US Army's Squad Automatic Weapon in 1982, pending some Army-specific alterations. The factory customized Minimi, designated as the Squad Automatic Weapon, M249 Light Machine Gun, was finally issued to the US Army and US Marines in 1985, replacing the aging M16A1 LMGs on a one-for-one basis for both infantry units and other units requiring high firepower. The military was desperate for this weapon, thanks to the ammunition conservation policy that lead to most M-16 rifles being converted to three-round burst weapons. The customizations demanded by the United States Army resulted in the M249 being over a kilogram lighter than the standard Minimi light machine gun. Along with these changes, the M249 retains a number of the standard Minimi features, including chrome lined barrels to reduce wear and corrosion, a cleaning kit stored in the removable handguard, and a removable trigger guard for winter operations with heavy gloves.

The M249 SAW is a lightweight, air-cooled, gas-operated, individually portable machine gun fed by either box magazine or 200-round disintegrating metallic link belt, capable of delivering a large volume of effective fire. Firing from an open bolt, a gas regulator allows it to fire at either a "normal" rate of 750 rounds per minute, or a "maximum" rate of 1000 rounds per minute. This is very much like the regulator value on the Soviet-designed PKM, as "maximum" is authorized for use only if the weapon's firing rate is slowed by adverse conditions. In other words, just like the PKM, the M249 can have a switch flipped, so to speak, to make it shoot harder and faster when prolonged firing without cleaning starts to make the gun too dirty to use effectively. The weapon's recoil is light enough for the operator to fire it from the shoulder, hip, or underarm position, as well as a bipod-steadied prone position. In typical use, the M249 SAW is used to engage dismounted infantry, crew served weapons, ATGM teams, and thin-skinned vehicles.

Along with deployment as a Squad Automatic Weapon, the M249 also sees duty as a light machine gun, complete with a tripof, traverse & elevation (T&E) mechanism, and a spare barrel. Unfortunately, the M249s are not manufactured to quite exacting standards; the barrels cannot be interchanged between weapons without having a qualified technician perform a headspace adjustment on the swapped barrel first. When used as a machine gun, these items increases the stability, the ability to make minute adjustments in aiming, and the ability to fire greater than three-round bursts. Because machine guns are not as mobile as automatic rifles, they normally remain with and form the key weapon of the base-of-fire element. It is possible to bring a machine gun with the maneuver element for added firepower in the assault. But once it has set up, it becomes another base of fire and is quickly left behind by the rest of the element as it sweeps across the objective. It will spend more time displacing than firing. Machine guns target enemy automatic weapons, key weapons, and command and

Weapon		SAW, M249 LMG			
Manufacturer	FN Manufacturing	Year	1982		
Nation	United States				
Caliber	5.56x45mm SS109	Mags	30 round box, 200 round belt		
Accuracy	Group	143cm @ 400 m	MOA		
	Kill		Pen		
Velocity	925 m/s		Energy	1691 J	
Weight	Empty	6.88 kg	ROF	SS	-
	Loaded	9.74 kg		MB	-
Length Range	1038 mm		Burst	-	
	Effective	1000 m	Auto	150	
	Max.	3600 m	Cyclic	750 or 1000	
Notes	Extra barrel weighs 1.6 kg. The Spare heat shield, barrel and barrel bag package weighs in at 2.18 kg.				

Weapon		FN Minimi			
Manufacturer	FN Herstal	Year	1978		
Nation	Belgium				
Caliber	5.56x45mm SS109	Mags	30 round box, 200 round belt		
Accuracy	Group	143cm @ 400 m	MOA		
	Kill		Pen		
Velocity	925 m/s		Energy	1691 J	
Weight	Empty	9.02 kg	ROF	SS	-
	Loaded	11.88kg		MB	-
Length Range	1038 mm		Burst	-	
	Effective	1000 m	Auto	150	
	Max.	3600 m	Cyclic	750 or 1000	
Notes	Old version before FN Herstal switched to M249 specs.				

Weapon		Minimi Para			
Manufacturer	FN Manufacturing	Year	1984		
Nation	United States				
Caliber	5.56x45mm SS109	Mags	30 round box, 200 round belt		
Accuracy	Group	157cm @ 400 m	MOA		
	Kill		Pen		
Velocity	866 m/s		Energy		
Weight	Empty	7.1 kg	ROF	SS	1
	Loaded	9.96 kg		MB	-
Length Range	914 mm, 787 mm collapsed		Burst	-	
	Effective	800 m	Auto	150	
	Max.	3600 m	Cyclic	750 or 1000	
Notes					

Weapon		Minimi SPW			
Manufacturer	FN Manufacturing	Year	1986		
Nation	United States				
Caliber	5.56x45mm SS109	Mags	30 round box, 200 round belt		
Accuracy	Group	157cm @ 400 m	MOA		
	Kill		Pen		
Velocity	866 m/s		Energy		
Weight	Empty	5.75 kg	ROF	SS	1
	Loaded	8.61 kg		MB	-
Length Range	908 mm, 775 mm collapsed		Burst	-	
	Effective	450 m	Auto	150	
	Max.	3600 m	Cyclic	750	
Notes					

M-249 SAW / MINIMI LMG

control elements. Once the enemy deploys, machine guns engage his supporting automatic weapons. As the enemy closes, if the machine guns have destroyed all of the enemy's supporting weapons, they can engage the assaulting troops with enfilading fires across the platoon front.

As an automatic rifle, the M249 SAW allows a rifle squad to take a light automatic weapon with them as they assault an objective. In the defense, they add the firepower of ten to twenty riflemen without the addition of further manpower. Characteristically, automatic rifles are light, fire rapidly, and are issued with more ammunition than the rifles in the squad they support. Each squad is issued three automatic rifles. No additional equipment configuration is needed, because the automatic rifleman fires the M249 either from the bipod mode or from various hand-held positions. In either the offense or defense, automatic riflemen must restrict themselves to firing three-round bursts to maintain their effectiveness against enemy targets. The M249 in the bipod or hand-held mode moves too easily off its point of aim after three rounds and automatic riflemen must readjust their aim. In the offense, the automatic rifleman is limited to what he can carry and fire on the move. Hence, while the automatic rifle affords a high volume of fire, it also rapidly consumes ammunition. Conservation and careful logistic planning are absolutely vital.

Getting back to the FN Herstal Minimi, the Minimi is the European version of the rifle, essentially as FN originally designed it. The action of the weapon is scaled down from the FN Herstal MAG, a 7.62mm machine gun. The Minimi can use both STANAG compliant 5.56mm magazines and belt feed. To initially serve units requiring a weapon for close quarters combat, FN manufactured a shorter barrel compatible with the Minimi's quick change barrel system and the buttstock could be removed and replaced with a folding one. FN Herstal has since changed the European Minimi to match the weight specifications and construction of the M249. Since then, the Minimi has undergone a great deal of change.

Early in variant development came the Minimi Para, which took the parts conversions for a more compact Minimi and combined them with M249 construction, resulting in a paratroop weapon with full compatibility with the M249 and Minimi, as well as a weapon capable of vehicle and tripod mounting.



The Minimi SPW is a direct derivative of the M249, designed for use in close-quarters combat and by Special Operations units who often need compact firepower. This design does not deviate significantly from the full size Minimi SAW, with the major changes being an even shorter barrel than the Minimi Para and a telescoping stock, along with the additional of Picatinny rails. The weapon is often further modified by the purchasing militaries through the removal of the the forestock and fitting a vertical handgrip in its place. The SPW has only been officially adopted by the United States, and while in some foreign military arsenals, it has little popularity elsewhere. This version

of the Minimi cannot be mounted on a tripod or vehicle.

The Minimi SPW was followed by the M249 SPW. The M249 SPW, also known as the M249 ParaSAW, is a Minimi SAW that has been modified for a further reduction in weight by stripping parts from it. The most significant change is that the M249 SPW cannot feed from magazines. It is belt-fed only.

There is one final version of the Minimi. As usual, the US Navy SEALs are almost never satisfied with the weapons provided by the military. To that end, the US Navy does try to get the weapons that best meet the needs of its elite troops. The M249 SPW was heavily modified. The quick change barrel system was altered thanks to a protocol that calls for the discarding of hot barrels. With no need to handle hot barrels any longer, the carry handle could be eliminated. The forestock was outfitted with a rail system, as the receiver was fitted with a rail for scopes. The barrels are fitted with an M4 flash suppressor and are threaded to accept a noise suppressor, which is normally issued with the rifle. Finally, in what is probably one of the most innovative decisions made about any gun in the past ten years, every surface of every part of the weapon is coated in Teflon to reduce wear, corrosion, and to provide dry lubrication.

Weapon		M249 SPW / M249 ParaSAW			
Manufacturer	FN Manufacturing	Year	1984		
Nation	United States				
Caliber	5.56x45mm SS109	Mags	30 round box, 200 round belt		
Accuracy	Group	153 cm @ 400 m		MOA	
	Kill			Pen	
Velocity	866 m/s		Energy		
Weight	Empty	5.9 kg	ROF	SS	1
	Loaded	8.76 kg		MB	-
Length	908 mm, 775 mm collapsed		Burst	-	
Range	Effective	450 m	Auto	150	
	Max.	3600 m	Cyclic	750	
Notes					
Weapon		Mk 46, Mod 0 Light Machine Gun			
Manufacturer	FN Manufacturing	Year	1984		
Nation	United States				
Caliber	5.56x45mm SS109	Mags	30 round box, 200 round belt		
Accuracy	Group	153 cm @ 400 m		MOA	
	Kill			Pen	
Velocity	866 m/s		Energy		
Weight	Empty	5.75 kg	ROF	SS	1
	Loaded	8.61 kg		MB	-
Length	908 mm, 775 mm collapsed		Burst	-	
Range	Effective	450 m	Auto	150	
	Max.	3600 m	Cyclic	750	
Notes					

M-249 SAW / MINIMI LMG



Minimi Para



M-249 SAW / MINIMI LMG

Cyberthriller													
Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
M-249 SAW	HVY	-3	N	M	5.56 N	0	200	7 [AB], 37 or 50 [C]	RE	1000	6.88	9.74	\$4087
FN Herstal Minimi	HVY	-3	N	M	5.56 N	0	200		RE	1000	9.02	11.88	\$5360
FN Herstal Minimi Para	HVY	-3	N	M	5.56 N	0	200		RE	800	7.1	9.96	\$4760
FN Herstal Minimi SPW	HVY	-3	N	M	5.56 N	0	200		RE	450	5.75	8.61	\$5190
M249 SPW ParaSAW	HVY	-3	N	M	5.56 N	0	200	7 [AB], 37 [C]	RE	450	5.9	8.76	\$5450
Mk 46 Mod 0	HVY	-3	N	M	5.56 N	0	200		VR	450	5.75	8.61	\$7120
Special Rules													

D20 System												
Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction		
M249 SAW	2d8	20	ballistic	330	A	200B	Lrg	22 lb	23	Mil (+3)		
FN Herstal Minimi	2d8	20	ballistic	330	A	200B	Lrg	26 lb	24	Mil (+3)		
FN Herstal Minimi Para	2d8	20	ballistic	265	A	200B	Lrg	22 lb	23	Mil (+3)		
FN Herstal Minimi SPW	2d8	20	ballistic	150	A	200B	Lrg	16 lb	24	Mil (+3)		
M249 SPW ParaSAW	2d8	20	ballistic	150	A	200B	Lrg	20 lb	24	Mil (+3)		
Mk 46 Mod 0	2d8	20	ballistic	150	A	200B	Lrg	19 lb	25	Mil (+3)		
Special Rules: The Mk 46 Mod 0 version of this weapon should be considered a Mastercraft weapon.												

FUDGE							
Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
M249 SAW	200	A, C	Superb	Terrible	4	\$4087	
FN Herstal Minimi	200	A, C	Superb	Terrible	4	\$5360	
FN Herstal Minimi Para	200	A, C	Superb	Terrible	4	\$4760	
FN Herstal Minimi SPW	200	A, C	Fair	Terrible	4	\$5190	
M249 SPW ParaSAW	200	A, C	Fair	Terrible	4	\$5450	
Mk 46 Mod 0	200	A, C	Fair	Terrible	4	\$7120	Well crafted.
Special Rules							

Action!											
Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
M249 SAW	5d6	P/L	-3	+2	4	1000	37 or 50	200	9.74	\$4087	
FN Herstal Minimi	5d6	P/L	-3	+2	4	1000	37 or 50	200	11.88	\$5360	
FN Herstal Minimi Para	5d6	P/L	-3	+1	4	800	37 or 50	200	9.96	\$4760	
FN Herstal Minimi SPW	5d6	P/L	-3	-1	4	450	37 or 50	200	8.61	\$5190	
M249 SPW ParaSAW	5d6	P/L	-3	-1	4	450	37	200	8.76	\$5450	
Mk 46 Mod 0	5d6	P/L	-3	-1	4	450	37	200	8.61	\$7120	
Special Rules:											

M3 'CARL GUSTAV' MAAWS

The M3 Multi-role Anti-armor Anti-personnel Weapon System, or MAAWS, consists of the Swedish-made Bofors M3 "Carl Gustav" shoulder-fired recoilless rifle and a family of 84mm rocket-propelled munitions. The system was first fielded by the U.S. Army's Rangers as a lightweight unguided weapon to replace the M67 recoilless rifle, the confusing variety of M72 LAWS in service as well as reducing the reliance on the unwieldy M47 Dragon, M136 AT-4s and M141s. The system entered service in 1990, and has since spread through SOCOM to become standard equipment for the U.S. Navy's SEAL teams as well. Outside SOCOM-associated units, the weapon is known as the M3 RAAWS (Ranger Anti-armor Assault Weapon System). Currently, there is a push for widespread introduction of the M3 system into the U.S. Army, first to the Airborne divisions, then to the Infantry divisions. If such occurs, the weapon would replace the vast majority of LAWs, Dragons, M136 AT4s and M141 systems in service, as well as the SMAWs on loan from the USMC.

While the system is a recent addition to the arsenals of the U.S. military, it most certainly is not a new weapon system. The British took the weapon with them when they went to war against Argentina over the Falkland Islands in 1982. The weapon was used to great effect not only against Argentine bunkers and fixed positions, but was also used to almost sink an Argentine frigate!

The M3 Recoilless Rifle weighs 8.5 kg and is just over a meter in length. A wide variety of munitions are used by the U.S., British, and Canadian governments. Along with the M3 recoilless rifle, which is the most recent lightweight version, they system had earlier used the M2 "Carl Gustav" recoilless rifle, a heavier, more cumbersome launcher first deployed in the 1960's. The M3 was made lighter by not only reducing the weapon's overall length, but converting to a rifled steel liner tube and steel venturi wrapped with a carbon fiber shell, with the rest of the weapon being made of aluminum and plastic parts

By default, US troops fit the M3 with the Picatinny Fire Control Device (PFCD), which was developed at the Picatinny Arsenal at the request of the Rangers. The original Bofors Fire Control Device was a two-cam design covering the HEAT and HE rounds, with a second knob to adjust for the HEDP rounds. Rangers don't like having to play with a bunch of knobs in the heat of battle, so the Picatinny Arsenal developed a new FCD with a single range adjustment knob that came into three separate positions to account for ballistic differences between the HEAT, HE and HEDP rounds. The unit can also be fitted with night sighting equipment as well. The Canadian armed forces field the weapon with a simple 3x telescopic sight that provide a 12 degree angle of view or a 2x telescopic sight that provides a 17 degree field of view.

The entire weapon is fully capable of being airdropped and is swimmable as well. Ammunition is transported in a hard plastic watertight sling pack that holds two rounds of ammunition.

Weapon		M-3 MAAWS Recoilless Rifle			
Manufacturer	Bofors Weapon Systems	Year	1982-		
Nation	Sweden				
Caliber	84mm Rocket	Mags	1		
Accuracy	Group			MOA	
	Kill			Pen	
Velocity	325 m/s		Energy		
Weight	Empty	8.5 kg	ROF	SS	45
	Loaded	12.5 kg		MB	-
Length	1070 mm			Burst	-
Range	Effective	500 m		Auto	-
	Max.	700 m		Cyclic	-
Notes	A complete kit of recoilless rifle, sight, three rounds of ammunition and related gear weigh in at 21.5 kg.				

Weapon		M-2 Recoilless Rifle			
Manufacturer	Bofors Weapon Systems	Year	1965-		
Nation	Sweden				
Caliber	84mm Rocket	Mags	1		
Accuracy	Group			MOA	
	Kill			Pen	
Velocity	325 m/s		Energy		
Weight	Empty	14.2 kg	ROF	SS	45
	Loaded	18.5 kg		MB	-
Length	1130 mm			Burst	-
Range	Effective	50 m		Auto	-
	Max.			Cyclic	-
Notes	A complete kit of recoilless rifle, sight, four rounds of ammunition and related gear weigh in at 29.5 kg.				



M3 'CARL GUSTAV' MAAWS

M3 MUNITIONS

HEAT 751

Munition	HEAT 751
Type	HEAT-T
Direct Fire Range	600m
Maximum Velocity	340 m/s
Weight	3.8 kg
Penetration	500+ mm
Blast Radius	5m

The HEAT 751 is an anti-armor munition using a tandem charge technology based on the combined effect of an explosively formed penetrator and hollow charge. The munition is capable of penetrating explosive reactive armor tiles without initiating the tile's explosive, then allows the main charge to blast through the armor protection, leaving massive internal damage.

HEAT 551

Munition	HEAT 551
Type	HEAT
Direct Fire Range	700m
Maximum Velocity	330 m/s
Weight	3.2 kg
Penetration	400mm
Blast Radius	5m

The HEAT 551 is a basic shaped charge anti-armor munition. Able to reach targets to a range of 700 meters, it is effective against all but the most heavily armored tanks. It is also highly effective against other hard targets, such as concrete bunkers, landing craft, slow low flying aircraft, and small warships.

HEDP 502

Munition	HEDP 502
Type	HEDP
Direct Fire Range	500m
Muzzle Velocity	230 m/s
Weight	3.3 kg
Penetration	150mm
Blast Radius	15m

This is a dual-purpose HE/HEAT munition optimized for combat in built up urban areas. It is effective against light armored vehicles, concrete and brick walls, field fortifications, and enemy troops. Effective against moving targets to 300 meters, stationary targets to 500m, and useful for indirect fire out to 1,000 meters.

HE 441B

This high explosive fragmenting round can be set for either impact detonation or airburst, making it effective against troops in the open and under cover, as well as soft-skinned vehicles and similar targets. Upon detonation, the shell fragments into approximately 800 pieces of shrapnel, easily shredding any unprotected materials in the area of blast effect.

Munition	HE 441B
Type	HE
Direct Fire Range	1250m
Muzzle Velocity	240 m/s
Weight	3.1 kg
Penetration	-
Blast Radius	15m

ADM 401

Munition	ADM 4012
Type	Area Defense (Flechette)
Direct Fire Range	100m
Muzzle Velocity	300 m/s
Weight	2.7 kg
Penetration	-
Blast Radius	Cone, 10m base, 100m l.

The ADM 401 area defense munition is designed for use in tight conditions common in jungle and urban warfare. When fired, rather than launching a rocket, the round explodes, launching 1,100 flechettes in a distribution pattern that puts 5 to 10 flechettes per square meter at a distance of 100 meters, the maximum effective range. The round is extremely effective against unarmored troops.

M3 'CARL GUSTAV' MAAWS

Illum 545

Munition	ADM 401
Type	Area Defense (Flechette)
Direct Fire Range	2100m
Muzzle Velocity	300 m/s
Weight	3.1 kg
Penetration	-
Blast Radius	Cone, 10m base, 100m l.

This is a parachute illumination flare. Capable of reaching ranges of up to 2100 meters away, the round bursts at 200 meters, providing 650,000 candella illumination over an area of 400 to 500 meters in diameter. The illumination lasts about 30 seconds as the round drifts to the ground.

Smoke 469B

Munition	SMOKE ADM 469B
Type	Smoke
Direct Fire Range	1300m
Muzzle Velocity	240 m/s
Weight	3.1 kg
Penetration	-
Blast Radius	Cloud, 50m diam. 15m ht.

Fitted with an impact fuse, this round uses 0.8 kg of titanium tetrachloride to instantaneously explode into a dense smoke screen suitable for spotting, screening and obscurement practices. A single rocket produces a sufficiently dense cloud to cover the movement of a full platoon of tanks.

FFV-597

Munition	FFV-597
Type	HEAT
Direct Fire Range	300m
Maximum Velocity	310 m/s
Weight	9.5 kg
Penetration	900+ mm
Blast Radius	10m

The FFV-597 is a HEAT round currently exclusive to the Swedish military. It is a hefty 125mm overcaliber rocket that fires from the M3 recoilless rifle. This single rocket is designed to keep the M3 MAAWS system competitive with the latest generation of ATGMs, capable of penetrating over 900mm of armor. However, the immense warhead required for this greatly reduces the overall effective range of the rocket to a mere half of the other HEAT rounds.



M3 'CARL GUSTAV' MAAWS

Cyberthriller													
Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
M2 MAAWS	HVY	0	N	M	-	-	1	1 [SS]	RE	-	14.2	18.5	\$1700
M3 MAAWS	HVY	+1	N	M	-	-	1	1 [SS]	RE	-	8.5	12.5	\$2600
HEAT 751	-	-	-	M	PEN 8, 3d10, 5m	-	-	-	-	600	3.8	-	\$220
HEAT 551	-	-	-	M	PEN 8, 3d10, 5m	-	-	-	-	700	3.2	-	\$145
HEDP 502	-	-	-	M	PEN 3, 1d10, 10m	-	-	-	-	500	3.3	-	\$98
HE 441B	-	-	-	M	8d10	-	-	-	-	1250	3.1	-	\$77
ADM 401	-	-	-	M	*	-	-	-	-	100	2.7	-	\$125
ILLUM 545	-	-	-	M	-	-	-	-	-	2100	3.1	-	\$56
SMOKE 469B	-	-	-	M	-	-	-	-	-	1300	3.1	-	\$56
FFV 597	-	-	-	M	PEN 18, 6d10, 15m	-	-	-	-	300	9.5	-	\$339
Special Rules	ADM 401: Any targets in the line of fire of this weapon will suffer 1D6+4 hits, each hit causing 3+1d3 damage.												

D20 System												
Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction		
M2 MAAWS	-	-	-	-	SS	1	Lrg	31 lb	20	Mil (+3)		
M3 MAAWS	-	-	-	-	SS	1	Lrg	19 lb	21	Mil (+3)		
HEAT 751	PEN 8, 8d6, 10'	-	Fire	200	-	-	Med	8 lb	13	Mil (+3)		
HEAT 551	PEN 8, 8d6, 10'	-	Fire	230	-	-	Med	7 lb	11	Mil (+3)		
HEDP 502	PEN 3, 4d6, 25'	-	Fire	165	-	-	Med	7 lb	9	Mil (+3)		
HE 441B	8d6	-	Slashing	415	-	-	Med	7 lb	9	Mil (+3)		
ADM 401	*	-	Slashing	35	-	-	Med	6 lb	11	Mil (+3)		
ILLUM 545	-	-	-	695	-	-	Med	7 lb	7	Mil (+3)		
SMOKE 469B	-	-	-	430	-	-	Med	7 lb	7	Mil (+3)		
FFV 597	PEN 18, 14d6, 40'	-	Fire	100	-	-	Med	21 lb	14	Mil (+3)		
Special Rules	<p>ADM 401: The ADM fires flechette ammunition. This ammunition is designed to function as the closest thing to a laser-based combat weapon as is possible at this time, providing high velocity combined with a very flat trajectory. Even at longer ranges, a shooter doesn't really have to compensate for the usual factors that influence bullets at such distances. Even more formidable is the fact that flechettes can also be fired en masse, like a shotgun firing buckshot.</p> <p>Many smaller flechette weapons that fire en masse ammunition will function almost identically to a shotgun firing shot ammunition. The cloud of flechettes will not suffer the -2 penalty to hit for each range increment and will suffer a -1 penalty on damage for each range increment.</p> <p>The ADM 401 operates differently, however. The munition is carefully designed to generate a pattern to the 1100 flechettes it fires, ensuring that every target in the area of effect is struck. Let everything inside the area of effect suffer 2d8 points of damage.</p>											

FUDGE							
Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
M2 MAAWS	1	SS	-	Mediocre	-	\$1700	
M3 MAAWS	1	SS	-	Fair	-	\$2600	
HEAT 751	-	-	Great	-	12	\$220	Fair Penetration
HEAT 551	-	-	Great	-	10	\$145	Mediocre Penetration
HEDP 502	-	-	Good	-	8	\$98	Poor Penetration
HE 441B	-	-	Superb	-	10	\$77	
ADM 401	-	-	Terrible	-	5	\$125	See Below
ILLUM 545	-	-	Superb	-	-	\$56	
SMOKE 469B	-	-	Superb	-	-	\$56	
FFV 597	-	-	Mediocre	-	18	\$339	Superb Penetration
Special Rules	ADM 401 causes 5 damage to everything inside a cone measuring 100 meters long and 12 meters at the base.						

M3 'CARL GUSTAV' MAAWS

Action!											
Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
M2 MAAWS	-	P/L	0	-	4	-	1	1	14.2	\$1700	
M3 MAAWS	-	P/L	+1	-	4	-	1	1	8.5	\$2600	
HEAT 751	14d6 [140]	P/L	-	+2	-	600	1	1	3.8	\$220	
HEAT 551	14d6 [140]	P/L	-	+2	-	700	1	1	3.2	\$145	
HEDP 502	5d6 [53]	P/L	-	+1	-	500	1	1	3.3	\$98	
HE 441B	8d6	P/L	-	+3	-	1250	1	1	3.1	\$77	
ADM 401	5d6	P/L	-	0	-	100	1	1	2.7	\$125	Affects everything in its cone-shaped area of effect, 100m long, 12m base.
ILLUM 545	-	P/L	-	+3	-	2100	1	1	3.1	\$56	
SMOKE 469B	-	P/L	-	+3	-	1300	1	1	3.1	\$56	
FFV 597	31d6 [315]	P/L	-	-1	-	300	1	1	9.5	\$339	
Special Rules:											

M-4 / M-4A1

The M-4 Carbine is one of a long line of M-16 based carbines developed by Colt since the 1970's. In fact, the M-4 isn't the first such carbine adopted by the US military, being preceded during the 1970's by the XM177E1 carbine, which was based on the CAR-15. The XM177 did eventually go its way into the sunset, but old ideas die hard. One idea that regularly resurfaces is to provide an adequate weapon for secondary troops. The idea dates back to World War II when engineers, cooks, and truck drivers frequently found themselves in the middle of combat in Europe, and the submachine guns and pistols they were provided proved to be rather ineffective for protecting them. So, in 1994, the Army adopted the Colt Model 720 selective-fire carbine as the M-4, intending to use it as a replacement for a wide number of M9 pistols, M3A1 SMGs, and a number of M16A2 rifles. The only difference between the M4 and the M16A2 is the shorter barrel and four-position telescoping buttstock of the M4.

The M4 turned out to be a very handy and comfortable weapon, so the U.S. Special Operations Command (SOCOM) took a good look at it as a primary firearm for the entire U.S. military Special Operations community. This led to the production of the M4A1 carbine, which is derived from the M16A4. Like the M16A4, the M4A1 has replaced its three round burst with a fully automatic fire mode.

SOCOM liked their little rifle so much that the US Naval Surface Warfare Center developed the SOPMOD M4 Kit. This kit consists of an M4A1 outfitted with a Rail Interface System (RIS) in place of the standard handguards, plus an array of additional accessories that can be mounted on the handgrip rails or the flatop scope rail. These accessories include: RIS handguard replacement, combat sling, sloping cheek weld stock, mini night sight, vertical forward pistol grip, ACOG 4x telescopic daylight sight, ACOG red dot reflexive sight, detachable open iron backup sights, visible laser pointer, IR laser pointer, detachable sound suppressor, detachable front grip, tactical light, and a modified M203 grenade launcher with a shortened barrel and separate improved sights. The SOPMOD M4 Kit is actually an outgrowth of the M16 Modular Weapon System (MWS) program completed in 1993. Weapons with either the MWS or the SOPMOD kits have a total of five mounting rails attached to them; one at the traditional carry handle location, plus four replacing the foregrip handguard. These four are ordinarily positioned; one each top, bottom, left and right. The SOPMOD kit replaces the original nonstandardized SOPMOD system developed between 1970 and 1990. The only thing standard about that was the duct tape and hose clamps individual soldiers used to attach "accessories" to their long arms.

Compared to the SOPMOD M4 Kit, the MWS is filled with a ridiculous number of options. Along with a variety of underbarrel weapons and an ungodly number of selections for just iron sights let alone scopes, thermal sights, and nightvision sights, it even provides for such things as swivel sling clips, forward pistol grips, flashlight mounts, and more. The MWS was developed by Knight Armament Company, meaning this bright idea may very well have been the result of Eugene Stoner tinkering with the design of the gun he is most famous for.

Weapon		M-4				
Manufacturer	FN Manufacturing	Year	1994-			
Nation	United States					
Caliber	5.56x45mm SS109	Mags	30			
Accuracy	Group	22.48 cm	MOA			
	Kill		Pen			
Velocity	884 m/s		Energy			
Weight	Empty	2.52 kg	ROF	SS	45	
	Loaded	3.32 kg		MB	3	
Length	838mm, 757 w/ stock collapsed				Burst	-
Range	Effective	360 m		Auto	90	
	Max.			Cyclic	-	
	Notes					

Weapon		M-4A1				
Manufacturer	FN Manufacturing	Year	1994-			
Nation	United States					
Caliber	5.56x45mm SS109	Mags	30			
Accuracy	Group	422.48 cm	MOA			
	Kill		Pen			
Velocity	884 m/s		Energy			
Weight	Empty	2.52 kg	ROF	SS	45	
	Loaded	3.32 kg		MB	-	
Length	838mm, 757 w/ stock collapsed				Burst	5
Range	Effective	360 m		Auto	90	
	Max.			Cyclic	800	
	Notes					

Weapon		M-4A1 SOPMOD Kit				
Manufacturer	FN Manufacturing	Year	1994-			
Nation	United States					
Caliber	5.56x45mm SS109	Mags	30			
Accuracy	Group	22.48 cm	MOA			
	Kill		Pen			
Velocity	884 m/s		Energy			
Weight	Empty	3.05 kg	ROF	SS	45	
	Loaded	3.55 kg		MB	-	
Length	838mm, 757 w/ stock collapsed				Burst	5
Range	Effective	360 m		Auto	90	
	Max.			Cyclic	950	
	Notes					



M4 w/ M203

Getting back to the M4, SOCOM chose it because the claims made about the weapon being light, compact, handy, and almost as capable as the M16A2. The weapon was effective out to 300 meters with iron sights and out as far as 500 meters with a scope or reflexive sight. Unfortunately, the weapon went untested for eight years before it saw actual combat, and the US military had spent close to \$25 million to procure some 8,000 of the rifle. However, in Afghanistan, reality slapped SOCOM right across the face. Due to the weapon's shorter barrel,

M-4 / M-4A1

ammunition fires at a significantly lower muzzle velocity, reducing both its effectiveness as well as its accuracy. The second problem is the shortening of the barrel also shortened the gas system, resulting in it operating under greater stress. This in turn significantly increases the gun's rate of fire while overstressing the components and reducing reliability. Thirdly, thanks to the increased rate of fire, the barrel and forend handguard overheat rapidly.

While the rifle is considered adequate as a personal defense weapon for non-infantry troops, like vehicle crews, clerks, and staff officers, there is a growing sentiment that the M4A1 is far less than ideal for Special Forces operations, at least in its current state. Its performance with SOCOM has also practically nullified the idea of completely re-arming the US Army with M4A1s in the place of all M16s, M3 SMGs and most M9 pistols. How exactly this would be cost-cutting is beyond me since the M4A1 costs over \$150 more than the M16A3 or M16A4. I suppose the cost cutting comes in the long run from using a single caliber ammunition and one type of magazine.



M4A1

M4A1 w/ AN-PVS4

SOPMOD M4 Accessory Kit

Carrying Handle/Sight

ACOG Reflex
0-300m Range

Backup Iron Sight
0-300m Range

ACOG 4X Scope
0-600m Range

Visible Laser
0-300m Range

Visible Light
9 Volt

M203 Grenade Launcher with QD Mount

M4A1 Carbine
(5.56 mm NATO)

Rail Interface System (RIS)

Forward HandGrip

AN/PEQ-2 IR Pointer/Illuminator
0-600m Range

QD Sound Suppressor
30 dB Reduction

Modified M203 Leaf Sight

Special Operations Peculiar Modification to the M4 Carbine (SOPMOD M4) Accessory Kit

Program Objective: To provide Special Operations Forces the ability to adapt the M4A1 Carbine to increase its operational effectiveness through improved target recognition, acquisition, and hit quality during day and night from Close Quarters to 500 meters.

Program Sponsors: United States Special Operations Command

Program Manager: Crane Division, Naval Surface Warfare Center

SOPMOD M4 Website: <http://www.navy.mil/4281st/sopmod3.htm>

M-4 / M-4A1

Cyberthriller													
Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
M4 Carbine	AR	+3	T	M	5.56 N	0	30	2 [SS], 3 [B]	RE	360	2.52	3.32	\$780
M4A1 Carbine	AR	+3	T	M	5.56 N	0	30	2 [SS], 5 [AB], 45 [C]	RE	360	2.52	3.32	\$780
M4A1 SOPMOD Kit	-	-	-	-	-	-	-	-	-	-	varies	-	\$17,300
M4 MWS Base Kit	-	-	-	-	-	-	-	-	-	-	+0.53	-	\$3125
Special Rules	SOPMOD Kit includes a complete set of accessories excluding the MNVS (mini night vision sight) . Also includes the MWS standardized base kit. The M4 MWS base kit is simply the RIS foregrip replacement, with sling, a set of iron sights, carrying handle, and grip slats for all 4 RIS rails. Buy your weapon separately.												

D20 System											
Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction	
M4 Carbine	2d8	20	ballistic	180	S,B	30	Med	7 lb	17	Mil (+3)	
M4A1 Carbine	2d8	20	ballistic		S,A	30	Med	7 lb	17	Mil (+3)	
M4 MWS Base Kit	-	-	-	-	-	-	-	+1 lb	22	None	
M4A1 SOPMOD Kit	-	-	-	-	-	-	-	+var.	38	Mil (+3)	
Special Rules	SOPMOD Kit includes a complete set of accessories excluding the MNVS (mini night vision sight) . Also includes the MWS standardized base kit. The M4 MWS base kit is simply the RIS foregrip replacement, with sling, a set of iron sights, carrying handle, and grip slats for all 4 RIS rails. Buy your weapon separately.										

FUDGE							
Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
M4 Carbine	30	SA, B	Fair	Good	4	\$780	
M4A1 Carbine	30	SA, A, C	Fair	Good	4	\$780	
M4 MWS Base Kit	-	-	-	-	-	\$17,300	Adds scoped bonus.
M4A1 SOPMOD Kit	-	-	-	-	-	\$3125	
Special Rules	SOPMOD Kit includes a complete set of accessories excluding the MNVS (mini night vision sight) . Also includes the MWS standardized base kit. The M4 MWS base kit is simply the RIS foregrip replacement, with sling, a set of iron sights, carrying handle, and grip slats for all 4 RIS rails. Buy your weapon separately.						

Action!											
Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
M4 Carbine	5d6	P/L	+1	-1	3	360	2/3	30	3.32	\$780	
M4A1 Carbine	5d6	P/L	+1	-1	3	360	2/45	30	3.32	\$780	
M4 MWS Base Kit	-	-	-	-	-	-	-	-	-	\$17,300	+1 Acc.
M4A1 SOPMOD Kit	-	-	-	-	-	-	-	-	+0.53	\$3125	
Special Rules:	SOPMOD Kit includes a complete set of accessories excluding the MNVS (mini night vision sight) . Also includes the MWS standardized base kit. The M4 MWS base kit is simply the RIS foregrip replacement, with sling, a set of iron sights, carrying handle, and grip slats for all 4 RIS rails. Buy your weapon separately.										

M47 DRAGON

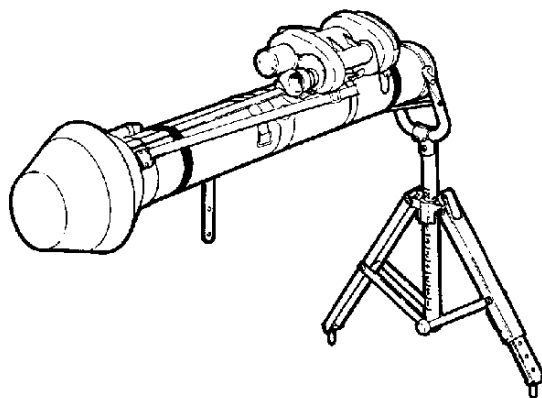
The M47 Dragon is a medium-range, wire-guided, line-of-sight assault missile capable of defeating armored vehicles, fortified bunkers, concrete gun emplacements, and other hard targets with its shaped charge warhead. The Dragon was developed by McDonnell-Douglas Aerospace in 1970 for the U.S. Army. The core of the M47 Dragon is actually a tracker system, which attaches to a missile storage/launch tube. The tube is disposable, the tracker unit is not. The launch tube is a smoothbore fiberglass tube to which the tracker attaches. The tube includes a support bipod, battery, sling, and shock absorbers. The system is designed to be carried and deployed by an individual gunner.

Since its introduction in 1970, the Dragon has been redesigned twice. The first time was a Product Improvement Program initiated by the USMC in 1985. This program resulted in the Dragon II, but was actually just a warhead refit to the existing missile stockpiles in order to improve performance. This was followed by a second warhead refit using a tandem charge warhead. The second redesign resulted in a vast improvement in the weapon's range, effectively doubling the weapon's range.

The Dragon is an expensive weapon system. The day tracker unit alone costs the USMC \$13,000. The night tracker system costs \$51,000. The missiles themselves have been priced in the \$10,000 range. Regardless this expense, the USMC inventories 1055 day trackers, 923 night trackers, and 17,000 missiles. The AUSA (Army of the United States of America) inventories 7,000 trackers and 33,000 missiles.

At this point, the Dragon is universally maligned, especially in the army, as it is a slow flying missile requiring more than 10 seconds to reach maximum range and it is an operator-guided weapon system, which keeps the operator vulnerable as a target to enemy fire while the missile is in flight.

Starting in the late 1990's, the more capable and more expensive Javelin ATGM began entering service with both the USMC and AUSA, leading to the slow phasing out of the Dragon. While the Javelin is three times the price of the Dragon, there are also unguided systems far cheaper than the Dragon as well. This means that unlike many other previous anti-armor infantry weapons that became demolition tools, the Dragon is most likely to be either cycled off to the National Guard or sold off or given away as military surplus to third world nations.



Weapon		M47 Dragon			
Manufacturer	McDonnell Douglas	Year	1970-1985		
Nation	United States				
Caliber	140mm missile	Mags	single shot		
Accuracy	Group		MOA		
	Kill		Pen	120mm	
Velocity	200 m/s		Energy		
Weight	Empty		ROF	SS	1
	Loaded	15.4 kg		MB	-
Length	1153 mm		Burst	-	
Range	Effective	500 m	Auto	-	
	Max.	1000 m	Cyclic	-	
Notes	Day sight weighs 3.06 kg. Thermal night tracker with batteries and gas bottle weighs 9.84 kg. This applies to all versions of the Dragon ATGM.				

Weapon		M47A2 Dragon II			
Manufacturer	McDonnell Douglas	Year	1985-1990		
Nation	United States				
Caliber	140mm missile	Mags	single shot		
Accuracy	Group		MOA		
	Kill		Pen	400mm	
Velocity	200 m/s		Energy		
Weight	Empty		ROF	SS	1
	Loaded	15.4 kg		MB	-
Length	1153 mm		Burst	-	
Range	Effective	1000 m	Auto	-	
	Max.	1000 m	Cyclic	-	
Notes					

Weapon		M47A3 Dragon II Tandem Charge			
Manufacturer	McDonnell Douglas	Year	1989-1997		
Nation	United States				
Caliber	140mm missile	Mags	single shot		
Accuracy	Group		MOA		
	Kill		Pen	500mm	
Velocity	200 m/s		Energy		
Weight	Empty		ROF	SS	1
	Loaded	16.97kg		MB	-
Length	1153 mm		Burst	-	
Range	Effective	1000 m	Auto	-	
	Max.	1000 m	Cyclic	-	
Notes					

Weapon		M47A3 SuperDragon			
Manufacturer	McDonnell Douglas	Year	1990-1997		
Nation	United States				
Caliber	140mm missile	Mags	single shot		
Accuracy	Group		MOA		
	Kill		Pen	500mm	
Velocity	200 m/s		Energy		
Weight	Empty		ROF	SS	1
	Loaded	16.97kg		MB	-
Length	1153 mm		Burst	-	
Range	Effective	1500 m	Auto	-	
	Max.	2000 m	Cyclic	-	
Notes					

M47 DRAGON

Cyberthriller													
Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
M47 Dragon	MIS	+4	N	M	PEN 3, 1D10, 3m	-	1	1/10	VR	500	-	15.4	\$20,000
M47A2 Dragon II	MIS	+4	N	M	PEN 8, 3D10, 3m	-	1	1/10	VR	1000	-	15.4	\$23,000
M47A3 Dragon II Tandem	MIS	+5	N	M	PEN 10, 4D10, 5m	-	1	1/10	VR	1000	-	16.97	\$27,000
M47A3 SuperDragon	MIS	+5	N	M	PEN 10, 4D10, 5m	-	1	1/10	VR	1500	-	16.97	\$29,000
Special Rules	Prices based upon purchase of a missile and day tracker. Subtract \$13,000 to obtain the missile price. Night tracker is \$51,000.												

D20 System												
Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction		
M47 Dragon	PEN 3, 4d6, 10'	-	Fire	165	SS	1	Lrg	34 lbs	24	Mil (+3)		
M47A2 Dragon II	PEN 8, 8d6, 10'	-	Fire	330	SS	1	Lrg	34 lbs	25	Mil (+3)		
M47A3 Dragon II Tandem	PEN 10, 9d6, 15'	-	Fire	330	SS	1	Lrg	37.5 lbs	27	Mil (+3)		
M47A3 SuperDragon	PEN 10, 9d6, 15'	-	Fire	500	SS	1	Lrg	37.5 lb	27	Mil (+3)		
Day Sight	-	-	-	-	-	-	-	6.75 lb	26	Mil (+3)		
Night Sight	-	-	-	-	-	-	-	21.5 lb	31	Mil (+3)		
Special Rules	Sights must be purchased separately from the launcher / missile assemblies.											

FUDGE								
Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes	
M47 Dragon	1	1	Superb	Great	5	\$20,000	Poor Penetration	
M47A2 Dragon II	1	1	Superb	Great	8	\$23,000	Mediocre Penetration	
M47A3 Dragon II Tandem	1	1	Superb	Superb	12	\$27,000	Fair Penetration	
M47A3 SuperDragon	1	1	Superb	Superb	12	\$29,000	Fair Penetration	
Special Rules	Prices based upon purchase of a missile and day tracker. Subtract \$13,000 to obtain the missile price. Night tracker is \$51,000.							

Action!												
Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes	
M47 Dragon	4d6 (42)	P/L	+2	0	6	500	1	1	15.4	\$20,000		
M47A2 Dragon II	14d6 (140)	P/L	+2	+2	6	1000	1	1	15.4	\$23,000		
M47A3 Dragon II Tandem	17d6 (175)	P/L	+3	+3	6	1000	1	1	16.97	\$27,000		
M47A3 SuperDragon	17d6 (175)	P/L	+3	+3	6	2000	1	1	16.97	\$29,000		
Special Rules:	Prices based upon purchase of a missile and day tracker. Subtract \$13,000 to obtain the missile price. Night tracker is \$51,000.											

M-60E3 GP MG

The M60 machine gun was developed in the late 1940's, with the initial design being little more than a copy of the German-made MG-42, relying specifically on the feed mechanism and gas-driven action of this World War Two weapon. The United States military adopted the M60 in 1950, and the machine gun served as the main medium or general purpose machine gun until the M240 was adopted By the Army in the 80's. While the Army now has completely fielded the M240 replacements for the M60, the Marines continue to replace the M60 in the field. However, even during Operation: Iraqi Freedom, the USMC had M60E3 machine guns in combat.

The M60E3 is the most recent version of the M60, and the final attempt to improve the weapon and compensate for its flaws. While the M60 was made relatively famous by movies about Vietnam, the reality was quite different. The weapon had a lot of problems that made it difficult to best effect. A gunner either used the weapon safely and ineffectively or effectively at great personal risk.

The major problem of the M60 is overheating. It heats so quickly with sustained fire that it was recommended that the barrel be swapped at the same time ammunition was reloaded in the weapon, every 200 rounds. Pushing the barrel further than this would warp the barrel quickly to the point of at least ruining the aim, if not jamming the weapon or outright destroying it by fusing the barrel to the receiver. Even though the barrel is a quick-change design, the bipod is connected to the barrel, requiring a second person to support the gun while the gunner changes the barrel. Additionally, there is no insulated gripping surface on the barrel, so a special asbestos mitten was needed to remove the heated barrel.

However, the M60 did improve on previous machine guns in a few ways. While by no means light, the large forearm assembly and buttstock allow the gun to be fired on the move from the hip, even aimed and fired from the shoulder like a rifle. Over the years, changes were made to improve performance and reliability, and the ammunition went from loose belts to being packaged in canvas packs that attach to the side of the machine gun (much like the ammunition packs of the M249 SAW).

The M60E1 was the first major design change on the weapon, which affixed the bipod to the gas tube, which in turn was affixed to the receiver, eliminating the need for an assistant to support the weapon during barrel changes.

The M60E3 is the culmination of these many alterations. The conversion kit makes the weapon lighter and smaller, and therefore more manageable. The M60E3 became the military's first close quarters assault machine gun, developed by the Navy first for use by the SEALs. The large forearm is replaced by a smaller forearm assembly with an integrated pistol grip and lighter bipod. The new, lighter barrels, available in two lengths, have integrated carry handles, new flash hidere, and fully adjustable front sights. The pistol grip is replaced with a more comfortable version, complete with a folding trigger guard that allows firing the weapon with gloves on. Internal parts are replaced to improve reliability. This includes an ambidextrous safety, universal sling attachments, and a new simplified gas system that doesn't require a safety wire to prevent loosening. All this made the weapon both better and worse. The lighter barrels overheat even worse than the originals, leading to greater firing restrictions and faster degradation of weapon reliability. If the barrel is not changed every 100 rounds, the new barrels would easily be destroyed by rapid, sustained fire after no more than 200 to 300 rounds fired. Needless to say, the SEALs stuck with their well worn and beloved M63 Stoner Weapon System, and the Marines, now stuck with the M60E3 for well over a decade, have struggled to replace it with the M240 GPMG.

The M60 can use M61 (armor-piercing), M62 (tracer), M63 (mechanical training dummy), M80 (ball/FMJ) and M82 (blank) munitions. The preferred combat load is an ammunition mix of 4 M80 cartridges and 1 M62 cartridge. This standard four-and-one mix of ball and tracer ammunition allows the gunner to use the TOT or Tracer-On-Target method of adjusting fire to achieve a target kill.

Weapon		M60 Medium Machine Gun			
Manufacturer	Saco Defense, Inc.	Year	1950-		
Nation	United States				
Caliber	7.52mm NATO	Mags	100 round belts		
Accuracy	Group	28 cm @ 400m	MOA		
	Kill		Pen		
Velocity	855 m/s		Energy	3553 J	
Weight	Empty	10.51kg	ROF	SS	45
	Loaded	13.51kg		MB	-
Length	1105 mm			Burst	-
Range	Effective	1100 m	Auto	100	
	Max.	3700 m	Cyclic	550	
Notes	Spare barrels weigh 3.74 kg.				

Weapon		M60E3 GPMG Long Barrel			
Manufacturer		Year			
Nation	United States				
Caliber	7.52mm NATO	Mags	100 round belts		
Accuracy	Group	28 cm @ 400m	MOA		
	Kill		Pen		
Velocity	853 m/s		Energy	3541 J	
Weight	Empty	8.5 kg	ROF	SS	45
	Loaded	11.5 kg		MB	-
Length	1076 mm			Burst	-
Range	Effective	1100 m	Auto	100	
	Max.	3700 m	Cyclic	600	
Notes	Spare barrels weigh 2.13 kg.				

Weapon		M60E3 GPMG Short Barrel			
Manufacturer		Year			
Nation	United States				
Caliber	7.52mm NATO	Mags	100 round belts		
Accuracy	Group	28 cm @ 400m	MOA		
	Kill		Pen		
Velocity	823 m/s		Energy	3292 J	
Weight	Empty	8.39 kg	ROF	SS	45
	Loaded	11.38kg		MB	-
Length	937 mm			Burst	-
Range	Effective	1100 m	Auto	100	
	Max.	3700 m	Cyclic	600	
Notes	Spare barrels weigh 2.01 kg.				

M-60E3 GP MG



M-60E3 GP MG

Cyberthriller													
Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
M60	HVY	+2	N	M	7.62 N	0	100	2 [SS], 5 [A], 27 [C]	ST	1100	10.51	13.51	\$6000
M60E3 Long	HVY	+2	N	M	7.62 N	0	100	2 [SS], 5 [A], 30 [C]	ST	1100	8.5	11.5	\$6000
M60E3 Short	HVY	+2	N	M	7.62 N	-1	100	2 [SS], 5 [A], 30 [C]	ST	1100	8.39	11.38	\$6000
Special Rules													

D20 System											
Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction	
M60	2d10	20	ballistic	365	SA, A	100B	Lrg	30 lb	24	Mil (+3)	
M60E3 Long	2d10	20	ballistic	365	SA, A	100B	Lrg	30 lb	24	Mil (+3)	
M60E3 Short	2d10	20	ballistic	365	SA, A	100B	Lrg	30 lb	24	Mil (+3)	
Special Rules											

FUDGE							
Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
M60	100	SA, A, C	Superb	Good	5	\$6000	
M60E3 Long	100	SA, A, C	Superb	Good	5	\$6000	
M60E3 Short	100	SA, A, C	Superb	Good	5	\$6000	
Special Rules							

Action!											
Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
M60	6d6+2	P/L	+1	+3	4	1100	2/27	100	13.51	\$6000	
M60E3 Long	6d6+2	P/L	+1	+3	4	1100	2/30	100	11.5	\$6000	
M60E3 Short	6d6+2	P/L	+1	+3	4	1100	2/30	100	11.38	\$6000	
Special Rules:											

M72 LAW

The M72 LAW has been a mainstay of manportable anti-armor technology for the US military for decades. The LAW is a lightweight, manportable, disposable, one-shot anti-tank weapon effective against most light armored vehicles and soft-skinned targets.

The weapon was originally developed in the early 1960's by Hessian Eastern in response to the Soviet RPG-2 and RPG-7 weapon systems. After Talley Defense Systems licensed the weapon for production in the United States, the weapon rapidly became a mainstay of the U.S. military and thanks to that extensive deployment, a standard NATO weapon system as well. Even the Soviet Bloc nations appreciated the weapon, with the Soviets and Czechs duplicating it in the form of the RPG-18 and RPG-26 systems.

The M72 LAW is a 66mm diameter unguided rocket bearing a shaped charge HEAT warhead, effective to a range of up to 220 meters. Since its introduction, the M72 has been upgraded several times. Five different models of the LAW, all externally identical, were developed over the years, thanks to the experiences of Vietnam. Unfortunately, as the weapon was upgraded, product goals changed, so that while one model of the weapon might be optimized for armor penetration, the next might be optimized for explosive effect or blast area. This lack of direction and the lack of obvious features to differentiate models of the M72 made it a logistical nightmare for every military using it.

To operate, the soldier simply pops off the end caps, breaking the water-tight seal on the weapon. He then extends the inner tube rearward, then removes the firing pin and opens the basic sight on the weapon, which is graded to 25 meter increments to 325 meters with 15 mph lead indexes to each side. Placing the inner tube upon his shoulder, the soldier then aims and fires the missile. Before firing, the soldier needed to ensure that the backblast area, some 15 meters deep and 8 meters wide, was clear of any friendly forces. The rocket, with a velocity of 200 m/s, can accurately strike stationary targets to a range of 220 meters and moving targets at a range of 170 meters, or engage as an indirect fire weapon on targets roughly one kilometer away. Upon detonation, the warhead produces a jet of plasma moving at a velocity of 8,000 meters per second, which strikes with a force of more than 10 million kilograms per square centimeter, easily carving a hole through RHA plate.

Early units of the M72 LAW were essentially defective, with underpowered rocket motors that buried the round in the dirt yards short of their intended targets. Additionally, while the manufacturers claimed the weapon could defeat the armor of any modern tank available at the time, this was in actuality a falsehood. This defeat of enemy armor required a perfectly perpendicular strike on the vehicle, something virtually impossible to attain in the heat of combat, especially against a moving target. The penetration capability of the LAW varied widely, from 150mm to 355mm of armor. Most militaries settled on the M72A2 and M72A3 variants of the weapon.

Most LAWs are sold in cases of five, for \$1,995. The M72A6 LAWs, also sold in cases of five, are significantly less, at \$1250 per case.

- The original M72 could penetrate 300mm of armor, but due to its unreliable rocket motor, could reliably hit a moving target at about 100 meters and a moving target at 150 meters, provided the operator was familiar with the sighting problems and compensated. The rockets often reached little more than 700 meters maximum range.
- The M72A2 and M72A3 improved the rocket, and could strike moving targets at 160 meters and stationary targets at 200 meters, with a

Weapon		M72 Light Anti-tank Weapon			
Manufacturer	Talley Defense Systems	Year	1963-1965		
Nation	United States				
Caliber	66mm rocket	Mags	single shot		
Accuracy	Group		MOA		
	Kill		Pen	300mm	
Velocity	145 m/s		Energy		
Weight	Empty		ROF	SS	1
	Loaded	2.3 kg		MB	-
Length	670mm closed, 950mm open		Burst	-	
Range	Effective	150 m	Auto	-	
	Max.	700 m	Cyclic	-	
Notes					

Weapon		M72A2 Light Anti-tank Weapon			
Manufacturer	Talley Defense Systems	Year	1965-		
Nation	United States				
Caliber	66mm rocket	Mags	single shot		
Accuracy	Group		MOA		
	Kill		Pen	300mm	
Velocity	217 m/s		Energy		
Weight	Empty		ROF	SS	1
	Loaded	2.3 kg		MB	-
Length	670mm closed, 950mm open		Burst	-	
Range	Effective	200 m	Auto	-	
	Max.	1000 m	Cyclic	-	
Notes					

Weapon		M72A3 Light Anti-tank Weapon			
Manufacturer	Talley Defense Systems	Year	1965-		
Nation	United States				
Caliber	66mm rocket	Mags	single shot		
Accuracy	Group		MOA		
	Kill		Pen	300mm	
Velocity	217 m/s		Energy		
Weight	Empty		ROF	SS	1
	Loaded	2.5 kg		MB	-
Length	670mm closed, 950mm open		Burst	-	
Range	Effective	200 m	Auto	-	
	Max.	1000 m	Cyclic	-	
Notes					

Weapon		M72A4 Light Anti-tank Weapon			
Manufacturer	Talley Defense Systems	Year	1965-		
Nation	United States				
Caliber	66mm rocket	Mags	single shot		
Accuracy	Group		MOA		
	Kill		Pen	355mm	
Velocity	217 m/s		Energy		
Weight	Empty		ROF	SS	1
	Loaded	2.5 kg		MB	-
Length	670mm closed, 950mm open		Burst	-	
Range	Effective	220 m	Auto	-	
	Max.	1000 m	Cyclic	-	
Notes					

Weapon		M72A5 Light Anti-tank Weapon			
Manufacturer	Talley Defense Systems	Year	1965-		
Nation	United States				
Caliber	66mm rocket	Mags	single shot		
Accuracy	Group		MOA		
	Kill		Pen	350mm	
Velocity	217 m/s		Energy		
Weight	Empty		ROF	SS	1
	Loaded	2.5 kg		MB	-
Length	670mm closed, 950mm open		Burst	-	
Range	Effective	220 m	Auto	-	
	Max.	1000 m	Cyclic	-	
Notes					

M72 LAW

maximum range of 1,000 meters. It still only penetrated 300 mm of armor. The rocket motors on the M72A3 were cheaper but heavier, increasing the weapon's weight by 0.2 kg.

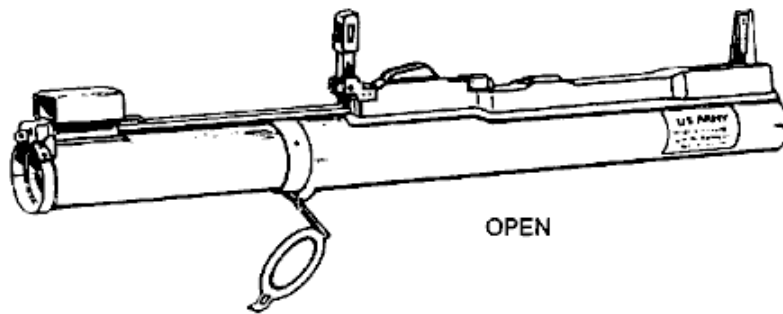
- The M72A4 improved the warhead for a more powerful effect, penetrating 355mm of armor, more than any other version of the LAW produced. It could hit moving targets at 170 meters, stationary targets at 220 meters, and reached a maximum range of 1,000 meters.
- The M72A5 improved on the M72A4 by using less expensive explosives to get nearly the same effect, penetrating some 350mm of armor. Like the M72A4, it could hit moving targets at 170 meters, stationary targets at 220 meters, and reached a maximum range of 1,000 meters.
- The M72A6 was the last version of the M72 LAW to be developed. Unlike the previous variants, the M72A6 was not designed as an anti-armor weapon. This version could only penetrate 150 mm of armor, but possessed improved blast and fragmentary capacities, making it an exceptional long range anti-personnel weapon. While it could hit a moving target at 160 meters and stationary targets at 200 meters, it was better used as an indirect fire weapon at ranges between 200 and 1,000 meters.

Weapon		M72A6 Light Anti-tank Weapon			
Manufacturer	Talley Defense Systems	Year	1965-		
Nation	United States				
Caliber	66mm rocket	Mags	single shot		
Accuracy	Group			MOA	
	Kill			Pen	150mm
Velocity	217 m/s		Energy		
Weight	Empty			SS	1
	Loaded	2.5 kg	ROF	MB	-
Length	670mm closed, 950mm open				
Range	Effective	200 m		Burst	-
	Max.	1000 m		Auto	-
Notes					
			Cyclic	-	

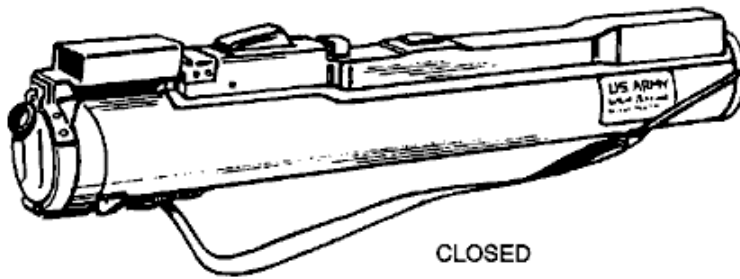
While the M72 LAW is now beginning to fade from the battlefields as superior small arms rocket weapons enter service, the threat it represents remains significant. In 1994, Chicago police broke up a gang that was attempting to buy AK-47s, M-16s, H&K MP-5s, and M72 LAWs in order to use the weapons in a plot to destroy a regional police command center, located on Chicago's west side. These gangbangers actually went so far as to make a down payment of \$4,000 and 0.25 kg of cocaine. When they were arrested, they had already managed to obtain some 20 surplus fragmentation hand grenades.



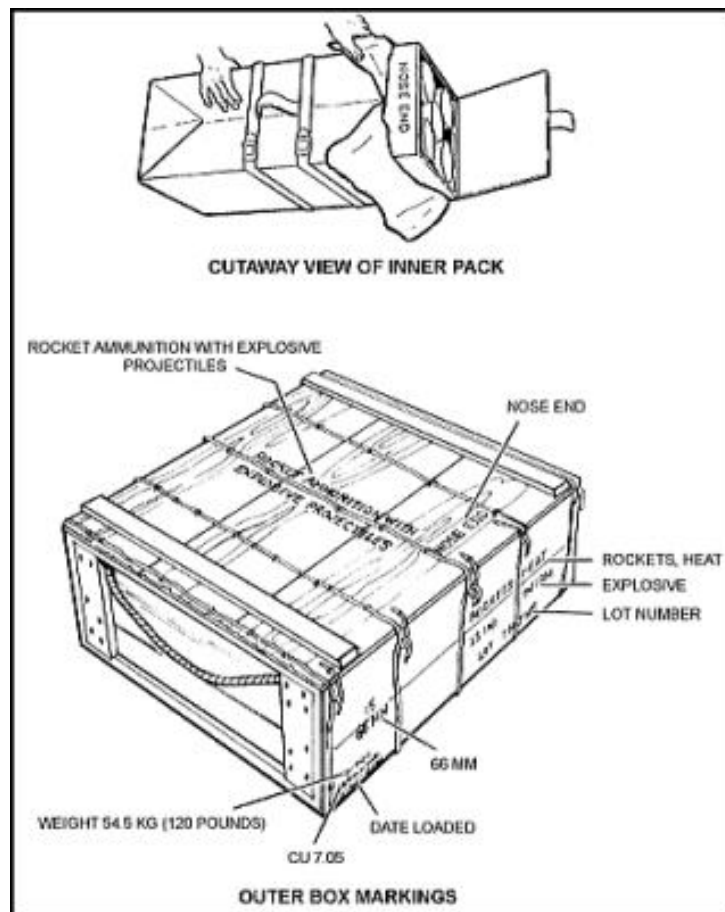
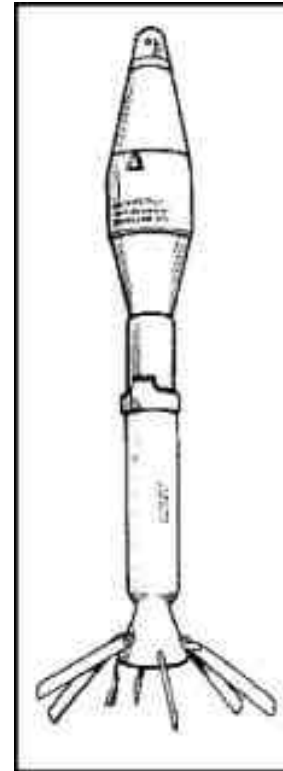
M72 LAW



OPEN



CLOSED



M72 LAW

Cyberthriller													
Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
M72 LAW	HVY	0	N	M	PEN 6, 2d10, 5m	0	1	1	ST	150	-	2.3	\$400
M72A2 LAW	HVY	0	N	M		0	1	1	RE	200	-	2.3	\$400
M72A3 LAW	HVY	0	N	M		0	1	1	VR	200	-	2.5	\$400
M72A4 LAW	HVY	0	N	M	PEN 8, 3d10, 5m	0	1	1	VR	220	-	2.5	\$400
M72A5 LAW	HVY	0	N	M	PEN 7, 3d10, 5m	0	1	1	VR	220	-	2.5	\$400
M72A6 LAW	HVY	0	N	M	PEN 3, 5d10, 25m	0	1	1	VR	200	-	2.5	\$250
Special Rules													

D20 System											
Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction	
M72 LAW	PEN 6, 6d6, 15'	-	fire	50	SS	1	Med	5 lb	15	Mil (+3)	
M72A2 LAW		-	fire	65	SS	1	Med	5 lb	15	Mil (+3)	
M72A3 LAW		-	fire	65	SS	1	Med	5.5 lb	15	Mil (+3)	
M72A4 LAW	PEN 8, 7d6, 15'	-	fire	75	SS	1	Med	5.5 lb	15	Mil (+3)	
M72A5 LAW	PEN 7, 7d6, 15'	-	fire	75	SS	1	Med	5.5 lb	15	Mil (+3)	
M72A6 LAW	PEN 3, 10d6, 30'	-	fire	65	SS	1	Med	5.5 lb	12	Mil (+3)	
Special Rules											

FUDGE							
Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
M72 LAW	1	SS	Poor	Mediocre	6	\$400	Mediocre Penetration
M72A2 LAW	1	SS	Poor	Mediocre	7	\$400	Mediocre Penetration
M72A3 LAW	1	SS	Poor	Mediocre	7	\$400	Mediocre Penetration
M72A4 LAW	1	SS	Poor	Mediocre	9	\$400	Mediocre Penetration
M72A5 LAW	1	SS	Poor	Mediocre	9	\$400	Mediocre Penetration
M72A6 LAW	1	SS	Poor	Mediocre	12	\$250	Poor Penetration
Special Rules							

Action!											
Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
M72 LAW	10d6 (105)	P/L	-1	-2	2	150	1	1	2.3	\$400	
M72A2 LAW		P/L	-1	-2	2	200	1	1	2.3	\$400	
M72A3 LAW		P/L	-1	-2	2	200	1	1	2.5	\$400	
M72A4 LAW	12d6 (124)	P/L	-1	-2	2	220	1	1	2.5	\$400	
M72A5 LAW	12d6 (122)	P/L	-1	-2	2	220	1	1	2.5	\$400	
M72A6 LAW	15d6 (52)	P/L	-1	-2	2	200	1	1	2.5	\$250	
Special Rules:											

M-9 SERVICE PISTOL

The M-9 Service Pistol is a weapon with a rather sordid history. When the M1911A1 sidearms had finally worn out after over 60 years of continuous service, the Department of Defense was stricken by the Congressional budget-cutting fever. Rather than permitting the separate armed services to each seek out their own replacement for the M1911A1, the DoD was ordered to consolidate the lists of requirements of each of the services and find one pistol that suited all their needs. In 1985, after an exhaustive competition, the contract for the new pistol was provided to Beretta for a somewhat modified Beretta 92F pistol, to be designated the M9 service pistol.

During the competition, the Beretta pistol greatly exceeded military requirements, exhibiting one malfunction per 30,000 rounds fired and a service life of more than double the 5,000 round requirement of the Army. The awarded contract was for 320,000 pistols, which have been delivered to the military at a rate of 6,000 weapons per month, delivered from a factory in Maryland, as well as shipped from Italy. This equates to a seven year contract to deliver a total of 500,000 weapons.

The early years of the pistol were not smooth ones. First came political pressure brought about from Smith & Wesson in order to obtain a second competition for the contract. The end result was Beretta getting a contract for an additional 142,000 arms. The various competing pistols, even after improvements, were still not able to meet the scores Beretta established during the 1984 trials.

The next major issue appeared the following year, when the U.S. Army put the M9 through more endurance trials. While the M9 was busy proving it had a life span in excess of 20,000 rounds fired (four times the Army's 1984 requirements), there was a batch of M882 ammunition that entered the testing process. Munitions supplier Olin claimed they did not manufacture the ammunition in this batch. The end result was that some M9 pistols were put through endurance tests with what was probably improperly marked high-pressure/high-impulse gunsmith quality control ammunition. When fired, these munitions generate internal pressures inside a gun that can be tens of times higher than that generated by normal ammunition. Normally, a gunsmith or manufacturer will fire only a few rounds of this ammunition through a gun, as it will immediately expose any flawed parts by producing breakages. However, when firing hundreds of rounds of this ammunition through the same gun, it will create those flaws through stress fractures and eventually lead to breakages. Two M9 pistols suffered slide failures after firing what may have been as many as 3,000 rounds of this high-pressure ammunition. The M9s were put on reduced service with field use limited to a maximum of 3,000 rounds while the failures were investigated. 150 more pistols were then destroyed through further endurance testing and metallurgical studies before the investigation ended. In the end, after determining there were only two failures in over 1,000,000 M9 and 92F slides manufactured, resulting in the pistols returning to full active duty.

Of course, the controversy over the M9 doesn't end there. These days, there is a company claiming it provided the U.S. Army CAD software used to develop the M9. Meanwhile, the fact is that credit for developing the M9 belongs primarily and vastly with Beretta, since the M9 is virtually identical to the 92F.

The M9 has served the U.S. military adequately, but as time has passed, more problems with the firearm have arisen. During operations in Afghanistan, a full 50% of troops using the pistol have started reporting rust and corrosion problems with the pistols, especially with the barrel. Along with this problem, many Al Qaeda and Taliban fighter exhibited symptoms of being drugged with khat, something with an effect similar to PCP, so soldiers armed with M9s frequently had to fire excessive amounts of ammunition into their enemies to stop them. As one Ranger had put it in an after-action report: "With the Beretta, I'd have to fire all 15 rounds and then throw the pistol at this wild-eyed dude". Other complaints about the weapon regarded malfunctions occurring virtually whenever the weapon gets wet, as well as complaints about many of the oldest pistols falling apart when dropped or struck against a hard surface. During Operation: Iraqi Freedom, magazine failures were so widespread that a great many officers traded up to a rifle. While some of the failures were due to the grit, dust and sand in the environment, most were due to weak springs failing. At this point, in the various special operations units of the U.S. military, the only troops using the Beretta are the ones who cannot afford to buy their own higher caliber sidearm.

The M9 is essentially a Beretta 92F, with slight modifications to better support the rigors of military use. The M9 has a redundant automatic safety features to prevent accidental discharge. The M9 can be fired in either single or double action mode. The pistol can be fired without a magazine loaded into it.

Weapon	M-9			
Manufacturer	Beretta	Year	1984-	
Nation	Italy, United States			
Caliber	9mm Parabellum		Mags	15
Accuracy	Group	11.2 cm @ 50 m		MOA
	Kill			Pen
Velocity	325 m/s		Energy	
Weight	Empty	0.86 kg	ROF	SS 45
	Loaded	1.16 kg		MB -
Length	217 mm		Burst	-
Range	Effective	50 m	Auto	-
	Max.		Cyclic	-
Notes	US Army pays \$601 per unit, the US Marines pay \$586 per unit.			



M-9 SERVICE PISTOL

Cyberthriller													
Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
M9 Service Pistol	AR	+5	J	M	9mm P	0	15	2 [SS]	RE	50	0.86	1.16	\$263
Special Rules													

D20 System											
Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction	
M9 Service Pistol	2d6	20	ballistic	165	SA	15	Med	2 lb	13	Mil (+3)	
Special Rules											

FUDGE							
Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
M9 Service Pistol	15	SA	Mediocre	Great	3	\$263	
Special Rules							

Action!												
Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes	
M9 Service Pistol	3d6+2	P/L	+3	-1	2	50	2	15	1.16	\$263		
Special Rules:												

The Milan (**M**issile d'**I**nfantrie **L**eger **A**nti-char) is an anti-tank guided missile (ATGM) developed as part of the joint venture Euromissile project involving France, Germany, and the UK. The Euromissile project also produced the Hot ATGM and the Roland Anti-aircraft missile. The Milan is a second generation anti-tank weapon consisting of two main components, the launcher and the missile. The two are clipped together to prepare the system for use. Upon firing, the operator need only keep the aiming mark on target and the Semi-Automatic Command to Line of Sight (SACLOS) guidance system will do the rest. The system was originally developed for the French and West German armies, but has since moved on to enter service with the militaries of 43 nations around the world, accounting for 75% of the world's medium-range anti-tank weapon system market. The French and German armies have procured a combined total of 350,000 Milan missiles and 10,000 launchers. The weapon is manufactured at a primary facility in Fontenay-aux-Roses, France, as well as under license in Spain, Great Britain and India. In all, more than 15,000 launchers and 730,000 Milan missiles of various types are in the world's arsenals.

The Milan was the first infantry-based anti-tank weapon to really challenge the supremacy of tanks on the battlefield. In Chad in 1987, 12 launchers fitted to the beds of 12 Toyota pickups accounted for the destruction of 60 Libyan T-55 and T-62 tanks. The Milan has served with the British Army for about two decades, having purchased over 1,000 launchers and 50,000 missiles. The Milan is deployed at the battalion level, with an armored infantry battalion being issued 24 launchers and 200 missiles. The Milan was carried into Iraq with the Royal Marine's 3 Commando Brigade in the battle for control over the city of Basra. By 2005, the British military will begin replacing the Milan with the UK Light Forces Anti-Tank Guided Weapon System (ATGWS), which requires an anti-tank weapon system consisting of a launcher and two missiles that can be carried 20 km by a two-man crew. Currently, the only candidates for this system are the US Javelin or the Israeli Gill.

The Milan itself has been through a number of generations. The original Milan, first produced in 1976 and now essentially out of service aside from its launcher, utilized a hefty system for a two man team. The launcher was a weighty 18.5 kg, plus 7.8 kg for the tripod, 13.5 kg for the battery pack, and 6.5 kg for the MIRA thermal imaging unit used for night fighting. This means the launch system alone weighed in at 46.3 kg. The other man in the team carried a pod of 4 missiles, each missile in a self-contained, waterproof, disposable tube, with that pack weighing 52.0 kg. Each missile/tube combination weighs 11.5 kg. Not an easy haul for any unmechanized infantry forces. The battery pack provided 4 hours of full power operation, and the system required 7 minutes to warm up from a cold start, and 30 seconds to ready between firings. The missile had the same 2 km range as the later Milans (limited only by the length of wire they can spool out, I suppose) and the early production Milan-1 warhead could penetrate 352mm of rolled homogenous armor (RHA). Later Milan-1 missiles were capable of penetrating 600 mm of armor.



Weapon		Milan-1			
Manufacturer		Year	1978-1985		
Nation	France, Germany, UK				
Caliber	125mm Missile	Mags	1		
Accuracy	Group		MOA		
	Kill	>90%	Pen	352mm	
Velocity	160 m/s		Energy		
Weight	Empty	46.3 kg	ROF	SS	2
	Loaded	57.8 kg		MB	-
Length	1200mm		Burst	-	
Range	Min.	25m	Auto	-	
	Max.	2000m	Cyclic	-	
Notes	1.79 kg shaped explosive warhead. Early production missiles penetrated only 352mm of armor, while later missiles were capable of penetrating 600 mm of armor				

Weapon		Milan-2			
Manufacturer		Year	1985-1995		
Nation	France, Germany, UK				
Caliber	125mm Missile	Mags	1		
Accuracy	Group		MOA		
	Kill	92%	Pen	800mm	
Velocity	160 m/s		Energy		
Weight	Empty	16.4 kg	ROF	SS	2
	Loaded	27.9 kg		MB	-
Length	1200mm		Burst	-	
Range	Min.	25m	Auto	-	
	Max.	2000m	Cyclic	-	
Notes	1.79 kg shaped explosive warhead.				

Weapon		Milan-3			
Manufacturer		Year	1996-		
Nation	France, Germany, UK				
Caliber	125mm Missile	Mags	1		
Accuracy	Group		MOA		
	Kill	>90%	Pen	880mm	
Velocity	160 m/s		Energy		
Weight	Empty	16.5 kg	ROF	SS	2
	Loaded	28.4 kg		MB	-
Length	1200mm		Burst	-	
Range	Min.	25m	Auto	-	
	Max.	1920m	Cyclic	-	
Notes					

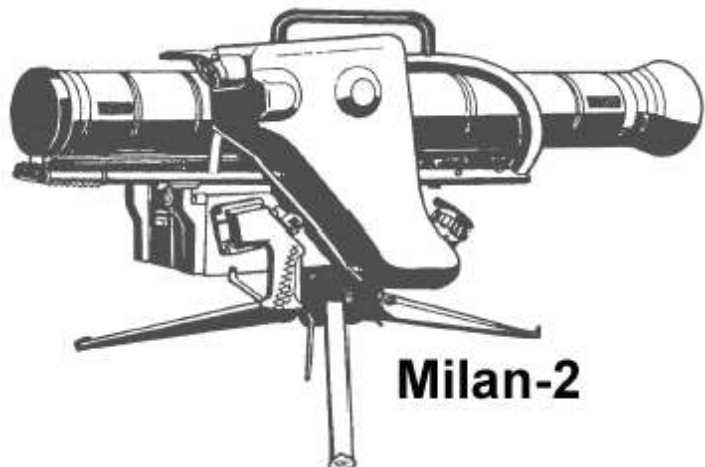
The Milan-2 introduced a newer, more powerful warhead and a revised launcher made resistant to countermeasures by using electronic flash lamp tracking rather than an IR sensor. The Milan-2's warhead is capable of penetrating over 500mm of RHA. The Milan-2 was followed up with the Milan-2T missile, which also incorporates a small tandem charge warhead used to defeat reactive armor. The Milan-2T was a proof-of-concept system leading up to the Milan-3, and therefore was never fielded. The Milan-2

MILAN

also introduced a more compact and lighter launch system as well, weighing in at 16.4 kg, compared to the 46.3 kg of the launcher produced only 10 years earlier. The Milan-2 resulted in quite a bit of changes to the deployment of the system. Rather than a 2-man team dedicated exclusively to the weapon, the Milan-2 was deployed with one man carrying the launcher and a second man carrying one or two missiles. Occasionally, a third man was present, preparing a missile for loading and launching while one man fired a missile and the third kept the munitions organized. There is also often one or more ammo bearers who follow the team, each carrying with an extra missile.

The latest version, in production since 1996, is the Milan-3. The Milan-3 missile incorporates another tandem warhead, capable of defeating the reactive applique armor on a tank, then burning a hole through more than 800 mm of RHA. The Milan-3 also provides a new launcher which possesses greater flexibility on its tripod and a much wider field of view for the aiming mechanism, while including new anti-jamming equipment. If you're curious as to how a missile controlled by signals sent through a pair of wires is jammed, the wire signals aren't what gets jammed. Instead the sensor on the launcher used to aim the missile is blinded, which in turn effectively jams the missile since either the operator can no longer see where the system is aimed, or the system cannot determine where the missile is going in reference to the target.

All Milan systems are susceptible to a number of countermeasures. These include smoke, IR jamming, forced launcher movement, and counterfire aimed toward the launcher. In night fighting, the MIRA sight can detect potential targets at a range of 4,000 meters, but can only identify them with any accuracy at 2,000 meters or less. Along with the tripod-based man-portable launcher, the Milan can also be fitted to pintle mounts on a vast number of vehicles, and a compact turret is available for APCs and IFVs, holding a pair of launchers.



Cyberthriller													
Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
Milan-1 Launcher	MIS	+4	N	M	125mm	-	1	1/10	VR	-	46.3	-	\$35,000
Milan-2 Launcher	MIS	+4			125mm	-	1	1/10	VR	-	16.4	-	\$35,000
Milan-3 Launcher	MIS	+5			125mm	-	1	1/10	VR	-	16.5	-	\$35,000
Milan-1 (early) Missile	MIS	-	N	M	PEN 7, 3d10, 3m	-	-		VR	2000	6.7		\$23,600
Milan-1 (late) Missile	MIS	-	N	M	PEN 12, 4d10, 3m	-	-		VR	2000	6.7		\$23,600
Milan-2 Missile	MIS	-	N	M	PEN 16, 5d10, 4m	-	-		VR	2000	6.7		\$23,600
Milan-3 Missile	MIS	-	N	M	PEN 18, 6d10, 4m	-	-		VR	1920	7.1		\$23,600
Special Rules													

D20 System												
Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction		
Milan-1 Launcher	-	-	-	-	SS	1	Lrg	51 lbs	30	Mil (+3)		
Milan-2 Launcher	-	-	-	-	SS	1	Lrg	36 lbs	30	Mil (+3)		
Milan-3 Launcher	-	-	-	-	SS	1	Lrg	36 lbs	30	Mil (+3)		
Milan-1 (early) Missile	PEN 7, 6d6, 10'	-	fire	660			Lrg	15 lb	28	Mil (+3)		
Milan-1 (late) Missile	PEN 12, 10d6, 20'	-	fire	660			Lrg	15 lb	28	Mil (+3)		
Milan-2 Missile	PEN 16, 13d6, 25'	-	fire	660			Lrg	15 lb	28	Mil (+3)		
Milan-3 Missile	PEN 18, 14d6, 30'	-	fire	630			Lrg	16 lb	28	Mil (+3)		
Special Rules											PEN 18, 14d6, 30'	

FUDGE							
Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
Milan-1 Launcher	1	1	-	Great	-	\$35,000	
Milan-2 Launcher	1	1	-	Great	-	\$35,000	
Milan-3 Launcher	1	1	-	Superb	-	\$35,000	
Milan-1 (early) Missile	-	-	Superb	-	10	\$23,600	Mediocre Penetration
Milan-1 (late) Missile	-	-	Superb	-	15	\$23,600	Good Penetration
Milan-2 Missile	-	-	Superb	-	18	\$23,600	Great Penetration
Milan-3 Missile	-	-	Superb	-	18	\$23,600	Superb Penetration
Special Rules							

Action!												
Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes	
Milan-1 Launcher	-	-	+2	-	6	-	1	1	46.3	\$35,000		
Milan-2 Launcher	-	-	+2	-	4	-	1	1	16.4	\$35,000		
Milan-3 Launcher	-	-	+3	-	4	-	1	1	16.5	\$35,000		
Milan-1 (early) Missile	12d6 (123)	P/L	-	+3	-	2000	-	-	6.7	\$23,600		
Milan-1 (late) Missile	21d6 (210)	P/L	-	+3	-	2000	-	-	6.7	\$23,600		
Milan-2 Missile	28d6 (280)	P/L	-	+3	-	2000	-	-	6.7	\$23,600		
Milan-3 Missile	30d6 (308)	P/L	-	+3	-	1920	-	-	7.1	\$23,600		
Special Rules:												

PKM GENERAL PURPOSE MACHINE GUN

In the years following World War II, the Soviet regime sought to modernize their armies with new small arms and military vehicles. One of those goals was to develop a reliable general purpose machine gun. This was a goal that dated back to the early 1930's, when the Soviet government was looking to replace the army's aging collection of carriage-mounted Maxim machine guns.

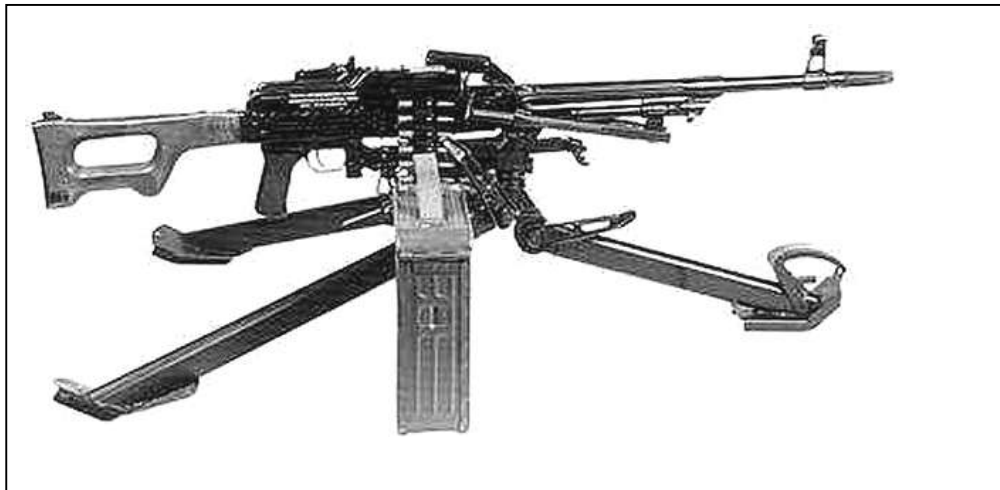
1939 saw the deployment of the DS-39 for the Finnish-Russo War of 1939-40. This machine gun was quickly withdrawn from service due to its overcomplicated design, propensity to malfunction in cold or dusty conditions, and a poorly designed feed mechanism that damaged each and every cartridge as they were stripped from belts. The next World War II experiment was the SG-43, which was lighter than the old maxims and far more reliable than the DS-39, but it still required either a wheeled carriage or tripod to use properly.

Shortly after the end of the war, the Soviets adopted the RP-46, a light, belt-fed version of the DPM light machine gun, which actually had its origins with the DP machine gun from 1917. The gun was light, flexible, and agile compared to its predecessors, but was pretty much useless as a general purpose machine gun, eventually ending its career as the Soviet Army's light machine gun. It fired a 7.62x54mm round and served as the front-line company machine gun until the 1960's, when it was replaced with the PK.

The PK was a machine gun ten years in the making. The RP-46 was barely entering service when competitions were held for its replacement. The winner was a design by Mikhail Kalashnikov, simpler in design and cheaper to manufacture. This machine gun, the PKM or Pulemyot Kalashnikova, adopted for service with the Soviet military in 1961, and entered service in 1964, along with the PKS and PKT. 1968 saw the introduction of the PKB, and in 1971, the PKM entered service after two years of field tests, side by side with the PKMS. These rifles are or were manufactured by Bulgaria, China, East Germany, Hungary, Poland, Romania, Russia, and the former Yugoslavia.

The PKS and PKMS are simply a PK or PKM mounted on a lightweight 4.75kg tripod. This tripod allows high angle elevation, enabling the machine gun to function in an anti-aircraft capacity.

The PKT and PKB are vehicle-mounted versions of the PK. They are stripped of stock, sights, and utilize a heavy barrel. The PKT is for mounting in tank turrets and hulls, and utilizes a solenoid for remote firing. The PKB is a PK modified for pintle mounts, utilizing a spade grips and a butterfly trigger assembly.



The PKM is a modernized version of the PK, with a lighter, unfluted barrel, and a hinged carry strap attached to the buttstock. It was further lightened by using stamped steel parts, rather than machined or milled parts.

The PK series machine guns had a number of very interesting features. First was the three position exhaust valve for the gas tube. This regulator valve is meant to be adjusted to position 2 and 3 as the weapon grows dirty from extended battlefield use in combat between cleanings.

Another interesting feature is the fact that a lot of adjustments can be made to the weapon using the edge of a spent brass casing. The weapon also required modification after several years in service. It originally used rimmed 7.62x54mm ammunition, which dates back to before the First World War. In order to load newer 7.62x54mm ammunition, a special extractor system had to be added to the weapon, which removes the next round from the belted feed while the bolt carrier moves back to eject the just-fired spent casing, then feeds the new round into the chamber as the bolt carrier returns forward.

Both the PK and PKM have integrated bipods. The PK is fed from a 100-round belt held in a box fastened to the right side of the gun. In the PKM configuration (tripod mounted), ammunition is fed from a separate box holding a 200 or 250 round belt, placed off to the right of the weapon. For the PKM, ammunition is contained in an assault magazine that attaches to rails underneath the weapon. It holds 100 rounds of ammunition in 25-round joinable belt strips.

Weapon		PK	
Manufacturer	Russia State Arms	Year	1961-
Nation	Russia		
Caliber	7.62 x 54mm	Mags	100+ round belts
Accuracy	Group		MOA
	Kill		
Velocity	825 m/s	Energy	
Weight	Empty	9 kg	ROF
	Loaded		SS -
			MB -
Length	1161mm		
Range	Effect.	1000 m	Burst -
	Max.	1500 m	Auto 250
			Cyclic 650
Notes	PKS tripod adds 4.75 kg to the weight.		

Weapon		PKM	
Manufacturer	Russia State Arms	Year	1971-
Nation	Russia		
Caliber	7.62 x 54mm	Mags	25+ round belts
Accuracy	Group		MOA
	Kill		
Velocity	120+ m/s	Energy	
Weight	Empty	8.4 kg	ROF
	Loaded	8.55kg	SS -
			MB -
Length	950mm		
Range	Effect.	1000 m	Burst -
	Max.	1500 m	Auto 250
			Cyclic 650
Notes	PKMS tripod adds 4.75 kg of weight.		

PKM GENERAL PURPOSE MACHINE GUN

Cyberthriller													
Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
PK	Hvy	+0	N	M	7.62x54 B	0	100+	12 [A], 32	VR	1000	9	@15	\$1800
PKM	Hvy	+0	N	M	7.62x54 B	0	100+	[C]	VR	1000	8.4	@15	\$2400
Special Rules													

D20 System											
Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction	
PK	2d10	20	ballistic	330	A	100B	Lrg	20 lb	20	Mil (+3)	
PKM	2d10	20	ballistic	330	A	25 B	Lrg	18.5 lb	21	Mil (+3)	
Special Rules											

FUDGE							
Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
PK	100+	A, C	Superb	Fair	4	\$1800	
PKM	25+	A, C	Superb	Fair	4	\$2400	
Special Rules							

Action!											
Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
PK	5d6+2	P/L	0	+3	5	1000	32	100+	15	\$1800	
PKM	5d6+2	P/L	0	+3	5	1000	32	25+	15	\$2400	
Special Rules:											

RPG-7V KNUT

A lineal descendant of the German Panzerfaust of World War II, the RPG-7 Knut was the primary infantry anti-tank weapon of the Eastern Bloc nations during the cold war. The RPG-7 began in May, 1958 as a pair of anti-tank weapon projects, the RPS-250 portable grenade launch system and the RPS-400 company grenade launch system. In less than 18 months, both design projects were completed and finished experimental trials with flying colors and a very rare show of political and bureaucratic approval of their performance. However, with the factory tooling process undertaken in 1960, it was discovered that there were difficulties with the RPS-400 that effectively nullified the weapon's existence as the cost-effectiveness of the weapon fell through the floor in comparison to the RPS-250.

Introduced in the 1961 when it was adopted by the Soviet Army, the RPG-7 eventually became as ubiquitous worldwide as the AK-47 did. In less than a year, an improved version, the RPG-7V, was also issued to the Soviet army. Over 40 years old, the RPG-7 has been used effectively in combat as recently as Operation: Iraqi Freedom in Spring 2003. The weapon is in the inventories of over 40 countries and is still manufactured in Bulgaria, China, Iran, Iraq, Pakistan, Romania and Russia.

The RPG-7 consists of a reloadable launcher with two hand grips, with a large optical scope mounted over the rear grip. Much of the launch tube is wrapped with a thick wooden heat shield and the rear of the weapon is fitted with a large, flared blast shield. All models of the RPG-7 can be sight illuminated for nighttime use, while the latest model, the RPG-7V, can mount a variety of telescoping, infrared, and passive sights for day and night use. All have open sights for emergency use. The launcher is light enough to be easily carried, loaded, and fired by a single person, though Soviet doctrine was to deploy the RPG-7 with a team of two. The second man was a gunner's assistant who had the primary responsibility of protecting the RPG-7 operator from small arms fire. The team deployed with the operator carrying the launcher and two rounds and the assistant carried three rounds.

Another common variant of the launcher was the RPG-7D, designed for use by airborne troops. This launcher broke down for easier stowage and safer airborne deployment with the troops. This launcher was replaced during the 1970's by the RPG-18D.

The RPG-7 has also become a preferred weapon of terrorists looking to assassinate civilian VIP targets. The weapon has been used extensively against such targets by the Irish Republican Army since the 1970's as well as South American drug cartels through the 80's and 90's. The forces of rebel organizations and warlords also utilize the RPG-7, as a weapon against armored vehicles and low flying, slow aircraft.

To give you an idea of how effective the RPG-7 is, During the Soviet-Afghan War from 1979 to 1989, Afghans using Stingers, RPG-2's, and RPG-7's managed to destroy 118 jets, 333 helicopters, 147 tanks, 1314 armored personnel carriers, 433 artillery pieces or mortar carriages, 1138 communications or control vehicles, 510 engineering vehicles, and 11,369 trucks.

Both Blackhawks shot down in Mogadishu in 1993 were brought down by RPG-7 fire. During Operation: Iraqi Freedom, between March and April 2003, the RPG-7 was used by Iraqi forces to destroy or incapacitate about 100 US and British aircraft and ground vehicles. In border skirmishes with guerillas during the Apartheid era of South Africa's history, RPG-7's were used effectively in hundreds of border clashes and hit-and-run raids, destroying armored and unarmored vehicles, as well as outposts, bunkers, and other hardened structural targets.

The RPG-7 is the successor to the RPG-2. The RPG-2 was essentially a modified copy of the German Panzerfaust and was put into service in the early 1950's, alongside the AK-47. The RPG-2 launcher was the same size as the RPG-7 launcher, but had a single grip and no blast shield. Additionally, it used simple iron sights for targeting, hence it had an effective range of a mere 100 meters. A major problem with the RPG-2 was the fact that its ammunition had to be assembled before firing; the rocket motor had to be screwed into the back of the warhead, then loaded into the launcher. However, in comparison, the RPG-2 was a very light and even more portable weapon, still useful in conflicts between third world forces, as well as with the Chinese military.

Weapon		RPG-7 Knut	
Manufacturer		Year	1961-
Nation	Russia		
Caliber	40mm RPG	Mags	1
Accuracy	Group		MOA
	Kill		
Velocity	120+ m/s	Energy	
Weight	Empty	6.3 kg	ROF
	Loaded	8.55kg	SS -
Length	950mm		MB -
Range			Burst -
	Effect.	300 m	Auto -
	Max.	920m	Cyclic -
Notes			

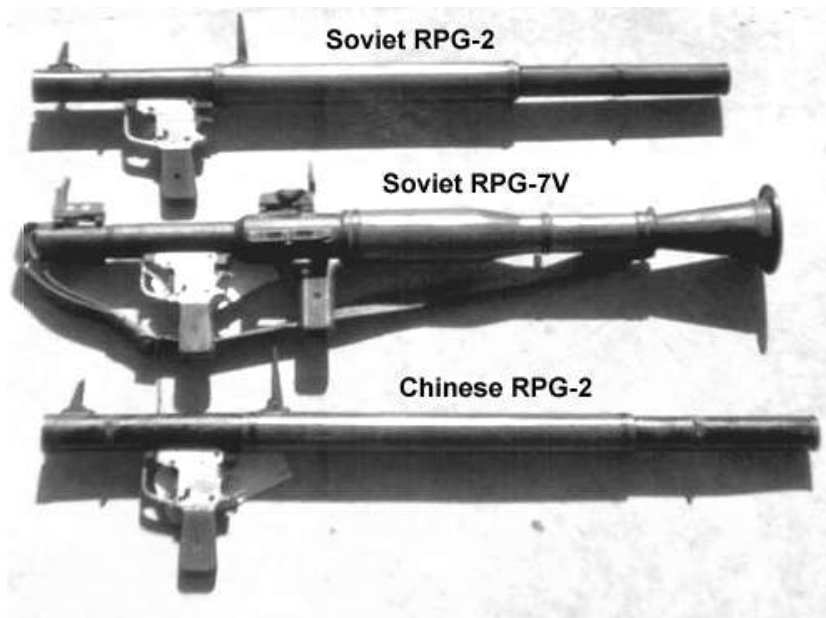
Weapon		RPG-7V Knut	
Manufacturer		Year	1961-
Nation	Russia		
Caliber	40mm RPG	Mags	1
Accuracy	Group		MOA
	Kill		
Velocity	120+ m/s	Energy	
Weight	Empty	6.3 kg	ROF
	Loaded	8.55kg	SS -
Length	950mm		MB -
Range			Burst -
	Effect.	300 m	Auto -
	Max.	920m	Cyclic -
Notes	Has undergone upgrade to the RPG-7V1, mounting a bipod for stability (empty weight 7.05 kg), and the RPG-7V2, an 7V1 with improved sighting equipment (empty weight 7.58 kg).		

Weapon		RPG-7D Knut	
Manufacturer		Year	1961-
Nation	Russia		
Caliber	40mm RPG	Mags	1
Accuracy	Group		MOA
	Kill		
Velocity	120+ m/s	Energy	
Weight	Empty	6.3 kg	ROF
	Loaded	8.55kg	SS -
Length	950mm		MB -
Range			Burst -
	Effect.	300 m	Auto -
	Max.	920m	Cyclic -
Notes			

Weapon		RPG-2	
Manufacturer		Year	1961-
Nation	Russia		
Caliber	40mm RPG	Mags	1
Accuracy	Group		MOA
	Kill		
Velocity	120+ m/s	Energy	
Weight	Empty	2.86 kg	ROF
	Loaded	4.48 kg	SS -
Length	950mm		MB -
Range			Burst -
	Effect.	150 m	Auto -
	Max.	1000m	Cyclic -
Notes			

RPG-7V KNUT

RPG-7 KNUT



RPG-7V KNUT

RPG-7 MUNITIONS

PG-7

Munition	PG-7
Type	HEAT Anti-tank
Direct Fire Range	300 m moving, 500 m stationary
Indirect Fire Range	920 m
Weight	2.25 kg
Penetration	330 mm
Blast Radius	4 m

than their eastern european counterparts, holding up to abuse better and suffering a far lower rate of misfire or malfunction compared to the Russian-made ammunition. This round entered service in 1961.

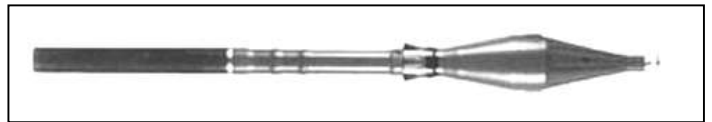
The PG-7 is the standard 85mm HEAT anti-tank made for the RPG-7, filled with a shaped explosive mixture of 94% RDX and 6% wax. Designed to fly in a fast, flat trajectory to enhance accuracy, the rocket utilizes a set of primary folding stabilizing fins that deploy once it leaves the launch tube, coupled with a secondary set of fins at the very rear, offset in order to induce a slow spin to induce the spin stabilization bullets use. it can be used effectively out to 300 meters against moving targets and 500 meters against stationary targets, and as an indirect fire weapon out to 920 meters, the limit determined by its 4.5 second automatic self-destruct mechanism. When buying PG-7 munitions, the general consensus is that ammunition of Chinese manufacture should be chosen over eastern european products. The Chinese rounds are considered to be significantly more reliable



PG-7M

Munition	PG-7M
Type	HEAT Anti-tank
Direct Fire Range	300 m moving, 500 m stationary
Indirect Fire Range	1000 m
Weight	2.0 kg
Penetration	330 mm
Blast Radius	3 m

The PG-7M is an improved version of the PG-7 round, using a somewhat smaller 70mm HEAT anti-armor warhead. This smaller warhead allows a faster flight, longer maximum range, and with the use of improved explosives, the PG-7M maintains an equivalent level of penetration when compared to the older PG-7 ammunition. As with the PG-7 round, of the various manufacturers worldwide, the ammunition coming out of China is considered to be the most reliable on the battlefield. This round entered service in 1965.



PG-7N

Munition	PG-7N
Type	HEAT Anti-tank
Direct Fire Range	300 m moving, 500 m stationary
Indirect Fire Range	920 m
Weight	2.25 kg
Penetration	400 mm
Blast Radius	6 m

The PG-7N was an anti-tank HEAT round designed to greatly enhance penetration by utilizing the 85mm grenade shell of the PG-7 round, packed with the enhanced explosives of the PG-7M round. The result was a powerful warhead weighing in at a mere 2.25 kg and capable of penetrating over 15 inches of armor plate. The improvement to penetration was by roughly 25%, a significant rate by most military standards.



PG-7V

Munition	PG-7V
Type	HEAT Anti-tank
Direct Fire Range	300 m moving, 500 m stationary
Indirect Fire Range	1000 m
Weight	2.0 kg
Penetration	260 mm
Blast Radius	5 m

The PG-7V is designed as a step between the PG-7 and the PG-7M. The PG-7V utilizes the 70mm warhead shell of the PG-7M, but packs it with the weaker explosive of the PG-7. The result was an inexpensive warhead that lacks penetrating power against a significant number of armored vehicles and tanks in the world's current inventories. The "V" in the designation indicates the round is for improved RPG-7 launchers, specifically the RPG-7V, RPG-7V1 and RPG-7V2. This round entered service in 1961.

RPG-7V KNUT

PG-7VL

Munition	PG-7VL
Type	HEAT General Purpose
Direct Fire Range	300 m moving, 500 m stationary
Indirect Fire Range	850 m
Weight	2.6 kg
Penetration	500 mm
Blast Radius	6 m

The PG-7VL is an improved RPG round utilizing a warhead in a 93mm shell. As an improved warhead, it is intended for use with the RPG-7V series improved launchers, rather than the earlier models like the RPG-7 or RPG-7D. The PG-7VL isn't simply an anti-armor round, but is designed for general purpose use. Along with being capable of cutting through at least a half meter of homogenous steel rolled armor, it can cut through 1.5+ meters of steel plate, 1.1 meters of reinforced concrete, and 2.4 meters of fieldworks, such as dirt embankments or log-reinforced bunkers and pits. This round was developed for the Soviet Army in 1977.



PG-7VR

Munition	PG-7VL
Type	HEAT General Purpose
Direct Fire Range	200 m moving, 500 m stationary
Indirect Fire Range	750 m
Weight	4.5 kg
Penetration	600 mm
Blast Radius	7 m

The PG-7VR is the heaviest HEAT round to be manufactured for the RPG-7V, a 105mm grenade on a 40mm rocket, weighing in at 4.5 kg. The PG-7VR is an important deviation in the RPG-7 ammunition design, being a tandem charge (designated as HEAT-T). The rocket was designed to defeat armored vehicles employing explosive reactive armor. With a tandem charge, the first, smaller warhead detonates on impact, disrupting the explosive effect of the ERA and allowing the main warhead of the rocket to pass to the vehicle's main layer of armor unopposed. The main warhead then detonates and burns through up to 600 millimeters of rolled homogenous armor plating. However, the tandem warhead also overcomes the most serious flaw of the RPG-7's previous munitions. Previous rounds used piezo-electric fuzing mechanism that could be shorted out easily by impacting against concertina wire, chain link fence, wire mesh and netting, and the like. When an RPG-7 round

stuck such materials, it would often become entangled and burn out. This method is so effective that even the self-destruct safety mechanism that detonates the round after 4.5 seconds is burned out as well. The PG-7VR instead detonates the first warhead on impact with these wire materials, and continues on briefly before the main warhead detonates. This round is also capable against targets other than armored vehicles. It will punch through 600 mm of RHA, at least two meters of brick, 1.5 meters of reinforced concrete, or nearly 4 meters of earthworks. The PG-7VR round entered service with the Russian military in 1988, and thus far, Russia is the only source for these munitions.



OG-7/7V

Munition	OG-7, OG-7V
Type	HEAT General Purpose
Direct Fire Range	165 m
Indirect Fire Range	950 m
Weight	2.6 kg
Penetration	150 mm
Blast Radius	10m

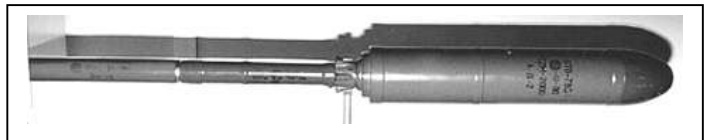
For over thirty years, the RPG-7 system was purpose-built to primarily defeat armor and hardened targets. Its blast and shrapnel effects were secondary effects of some benefit against softer targets. After the fall of the USSR, designers could finally enjoy the freedom to expand the RPG-7 beyond its anti-armor role. The first new munition produced after the end of the cold war was the OG-7 High Explosive Fragmentary (HEF) round. This munition is a dedicated anti-personnel round which is also effective against unarmored and light armored vehicles. The OG-7 was introduced to Russian inventories in the mid 70's and the OG-7V was introduced in 1999.



GTB-7G

Munition	OG-7, OG-7V
Type	HEAT General Purpose
Direct Fire Range	165 m
Indirect Fire Range	950 m
Weight	2.6 kg
Penetration	150 mm
Blast Radius	10m

The GTB-7G is another thermobaric munition for the RPG-7, manufactured by Bulgaria. It is a more substantial shell than the Russian TBG-7G, and capable of causing quite a bit more damage. This round was exposed to the public in 2001.



RPG-7V KNUT

TBG-7G

Munition	OG-7, OG-7V
Type	HEAT General Purpose
Direct Fire Range	400 m
Indirect Fire Range	950 m
Weight	2.6 kg
Penetration	150 mm
Blast Radius	10m

The TBG-7V is a thermobaric grenade. In other words, it is a rocket propelled grenade that doesn't rely on the power of an internal explosion, but instead utilizes the concept of the Fuel-Air Explose, or FAE. On impact, the round vents a large cloud of aerosol vapor, then ignites the cloud, resulting in a detonation that produces a rapid formed, high pressure blast wave equivalent to that of a 120mm high explosive artillery shell or mortar bomb. This round entered service after 2000.



PG-2

Munition	PG-2
Type	HEAT General Purpose
Direct Fire Range	165 m
Indirect Fire Range	950 m
Weight	1.62 kg
Penetration	180 mm
Blast Radius	3m

The PG-2 was the rocket produced for use with the RPG-2 rocket launcher. The PG-2 was a hefty little rocket developed at the end of WW2, weighing in at 1.62 kg. The weapon wasn't particularly accurate, and could only penetrate up to 180 mm of rolled homogenous steel armor (RHA). The rocket could be used effectively against stationary or slow-moving targets out to about 100 meters. While the rocket could fly a full kilometer, nine-tenths of that range it was only useful as an indirect fire suppression weapon.

Iraqi "Ghost" Munitions

The Iraqis are rumored to currently have or in the past had possession of a number of RPG-7 compatible rockets of types not fielded by other nations. The first is a napalm-based RPG-7 round, effectively supplying the ability to smash several molotov cocktails on a target from a standoff distance of up to 500 meters.

The second rumored munition is a chemical weapon deployment round. Supposedly loaded with either a nerve agent like tabun or Sarin, or a blood agent like Cyanogen Chloride or Cyanogen Bromide. Reports from the Iran-Iraq war indicate that these chemical rounds were effective at killing a vehicle crew with little additional damage to the vehicle or surrounding area, though the rounds suffered a 25% failure rate. Reports from the Iran-Iraq war suggest that the rounds dispersed a cloud of dust on the target. Between the cloud of dust, high failure rate, and Iraqi interest in cyanide compounds during that timeframe, the most likely candidate to fill these RPG-7 rounds is Cyanogen Bromide. The chemical weapon is in solid form at all atmospheric temperatures, explaining the powder witnessed in the reports and it is also highly corrosive, which would easily contribute to the excessively high failure rate. Evidence suggests that these munitions were part of a field test program during the Iran-Iraq War and it seems likely that the entire stockpile was either completely consumed in deployment during the war or destroyed with termination of the program due to the high failure rate, with no munitions of this type surviving for Desert Storm in 1991, let alone Operation: Iraqi Freedom in 2003.

Hard data on both these munitions is virtually impossible to come by. Examples of both types of munitions do not exist, and technical information/blueprints for both have yet to be uncovered by WMD searches in Iraq. All data is extrapolated from battlefield reports from the Iran-Iraq War, when these weapons were known to have been used. Since no exact information can be tracked down, there is currently no data block listed here for either. Extrapolated statistics for both types are listed under the weapon statistics for CyberThriller and D20.

RPG-7V KNUT

Cyberthriller													
Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
RPG-2	Hvy	-4	N	M	40mm	-	1	1/4	ST	-	2.86	4.48	\$650
RPG-7	Hvy	-3	N	M	40mm	-	1	1/2	VR	-	6.3	8.55	\$850
RPG-7V1	Hvy	-2	N	M	40mm	-	1	1/2	RE	-	7.05	8.7	\$1000
RPG-7D	Hvy	-2	N	M	40mm	-	1	1/2	RE	-	6.3	8.55	\$900
PG-2 40mm HEAT	-	-	N	M	PEN 4, 3d10, 3m	-	-	-	ST	150	-	1.62	\$30
PG-7 40mm HEAT	-	-	N	M	PEN 7, 5d10, 4m	-	-	-	ST	300/500	-	2.25	\$50
PG-7M 40mm HEAT	-	-	N	M	PEN 7, 5d10, 4m	-	-	-	ST	300/500	-	2.0	\$55
PG-7N 40mm HEAT	-	-	N	M	PEN 8, 6d10, 6m	-	-	-	ST	300/500	-	2.25	\$75
PG-7V 40mm HEAT	-	-	N	M	PEN 6, 4d10, 5m	-	-	-	ST	300/500	-	2.0	\$60
PG-7VL 40mm HEAT	-	-	N	M	PEN 10, 7d10, 6m	-	-	-	ST	300/500	-	2.6	\$150
PG-7VR 40mm HEAT-T	-	-	N	M	PEN 12, 8d10, 6m	-	-	-	ST	200/500	-	4.5	\$350
OG-7 40mm HE	-	-	N	M	PEN 2, 4d10, 6m	-	-	-	ST	165	-	2.6	\$150
OG-7V 40mm HE	-	-	N	M	PEN 2, 4d10, 6m	-	-	-	ST	165	-	2.6	\$150
GTB-7G 40mm FAE	-	-	N	M	PEN 5, 10d10, 35m	-	-	-	ST	500	-	5.0	\$700
TBG-7G 40mm FAE	-	-	N	M	PEN 6, 12d10, 30m	-	-	-	ST	400	-	4.0	\$500
Iraqi Napalm Munition	-	-	N	M,O	6D6, 5m	-	-	-	ST	500	-	2.0	\$50
Iraqi Chemical Munition	-	-	N	M,O	Special	-	-	-	ST	500	-	2.0	\$700
Special Rules	See BIO-CHEM Warfare rules in the CyberThriller core rules for details on chemical weapons used in the Iraqi Chemical Munitions.												

D20 System											
Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction	
RPG-2	-	-	-	-	1/2	1	Lrg	6 lb	16	Mil (+3)	
RPG-7	-	-	-	-	1	1	Lrg	14 lb	17	Mil (+3)	
RPG-7V	-	-	-	-	1	1	Lrg	15 lb	18	Mil (+3)	
RPG-7D	-	-	-	-	1	1	Lrg	14 lb	17	Mil (+3)	
PG-2 40mm HEAT	PEN 4, 5d6, 10'	-	fire	50	-	-	Lrg	3.5 lb	5	Mil (+3)	
PG-7 40mm HEAT	PEN 7, 7d6, 15'	-	fire	100	-	-	Lrg	5 lb	7	Mil (+3)	
PG-7M 40mm HEAT	PEN 7, 7d6, 15'	-	fire	100	-	-	Lrg	4.5 lb	7	Mil (+3)	
PG-7N 40mm HEAT	PEN 8, 8d6, 20'	-	fire	100	-	-	Lrg	5 lb	8	Mil (+3)	
PG-7V 40mm HEAT	PEN 6, 6d6, 15'	-	fire	100	-	-	Lrg	4.5 lb	7	Mil (+3)	
PG-7VL 40mm HEAT	PEN 10, 9d6, 20'	-	fire	100	-	-	Lrg	6 lb	11	Mil (+3)	
PG-7VR 40mm HEAT-T	PEN 12, 10d6, 20'	-	fire	65	-	-	Lrg	10 lb	14	Mil (+3)	
OG-7 40mm HE	PEN 3, 8d6, 30'	-	slashing	55	-	-	Lrg	6 lb	11	Mil (+3)	
OG-7V 40mm HE	PEN 3, 8d6, 30'	-	slashing	55	-	-	Lrg	6 lb	11	Mil (+3)	
GTB-7G 40mm FAE	PEN 3, 12d6, 100'	-	concussion	165	-	-	Lrg	8 lb	16	Mil (+3)	
TBG-7G 40mm FAE	PEN 3, 10d6, 90'	-	concussion	130	-	-	Lrg	11 lb	15	Mil (+3)	
Iraqi Napalm Munition	3d6	-	fire	100	-	-	Lrg	4.5 lb	7	Mil (+3)	
Iraqi Chemical Munitions	Special	-	Poison	100	-	-	Lrg	4.5 lb	16	Mil (+3)	
Special Rules	<p>Optionally, the damage for the PG-series ammunition can be divided between fire type and slashing type, since the PG-series rounds do produce a sizable amount of shrapnel from their shell casings.</p> <p>Iraqi Napalm Munitions disperse flammable material through explosive force, splash radius is 15 feet, rather than 5 feet. Splash damage is 1d6, rather than 1 point.</p> <p>Iraqi Chemical Munitions - Please see the section on chemical warfare for proper statistics and effects for chemical weapons. These will supplant the rules on page 54 of the D20 Modern core rules, seeing as Sarin gas, for example, damages the nervous system (affecting DEX, INT, WIS, usually permanent in nature) rather than the autoimmune system (affecting CON & STR). These additional rules will only affect the poisons listed as chemical or biological weapons.</p>										

RPG-7V KNUT

FUDGE							
Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
RPG-2	1	SS	-	Fair	-	\$650	
RPG-7	1	SS	-	Fair	-	\$850	
RPG-7V	1	SS	-	Fair	-	\$1000	
RPG-7D	1	SS	-	Fair	-	\$900	
PG-2 40mm HEAT	-	-	Poor		6	\$30	Poor Penetration
PG-7 40mm HEAT	-	-	Fair		10	\$50	Mediocre Penetration
PG-7M 40mm HEAT	-	-	Fair		10	\$55	Mediocre Penetration
PG-7N 40mm HEAT	-	-	Fair		12	\$75	Fair Penetration
PG-7V 40mm HEAT	-	-	Fair		8	\$60	Mediocre Penetration
PG-7VL 40mm HEAT	-	-	Fair		14	\$150	Mediocre Penetration
PG-7VR 40mm HEAT-T	-	-	Fair		16	\$350	Good Penetration
OG-7 40mm HE	-	-	Poor		8	\$150	Poor Penetration
OG-7V 40mm HE	-	-	Poor		8	\$150	Poor Penetration
GTB-7G 40mm FAE	-	-	Fair		20	\$700	Poor Penetration
TBG-7G 40mm FAE	-	-	Mediocre		24	\$500	Poor Penetration
Iraqi Napalm Munition	-	-	Fair		6	\$50	
Iraqi Chemical Munitions	-	-	Fair		*	\$700	
Special Rules							

Action!											
Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
RPG-2	-	-	-3	-	3	-	1/4r	1	4.48	\$650	
RPG-7	-	-	-2	-	3	-	1/2r	1	8.55	\$850	
RPG-7V	-	-	-1	-	3	-	1/2r	1	8.7	\$1000	
RPG-7D	-	-	-1	-	3	-	1/2r	1	8.55	\$900	
PG-2 40mm HEAT	6d6 (63)	P/L	-		-	150	-	-	1.62	\$30	
PG-7 40mm HEAT	11d6 (115)	P/L	-		-	500	-	-	2.25	\$50	
PG-7M 40mm HEAT	11d6 (115)	P/L	-		-	500	-	-	2.0	\$55	
PG-7N 40mm HEAT	14d6 (140)	P/L	-		-	500	-	-	2.25	\$75	
PG-7V 40mm HEAT	9d6 (91)	P/L	-		-	500	-	-	2.0	\$60	
PG-7VL 40mm HEAT	17d6 (175)	P/L	-		-	500	-	-	2.6	\$150	
PG-7VR 40mm HEAT-T	21d6 (210)	P/L	-		-	500	-	-	4.5	\$350	
OG-7 40mm HE	5d6 (52)	B/L	-		-	165	-	-	2.6	\$150	
OG-7V 40mm HE	5d6 (52)	B/L	-		-	165	-	-	2.6	\$150	
GTB-7G 40mm FAE	10d6 (52)	B/L	-		-	500	-	-	5.0	\$700	
TBG-7G 40mm FAE	12d6 (52)	B/L	-		-	400	-	-	4.0	\$500	
Iraqi Napalm Munition	6d6	Sp	-		-	500	-	-	2.0	\$50	
Iraqi Chemical Munitions	Sp.	Sp	-		-	500	-	-	2.0	\$700	
Special Rules:											

RPK

The RPK (Ruchnoi Pulemyot Kalashnikova or Kalashnikov Light Machinegun) was developed to replace the RPD as the Soviet squad light support weapon, issued one per ten-man squad. The RPK is a modified AK-47 (and later AKM) rifle which has received a sturdier receiver, a heavier and longer nondetachable barrel with a nondetachable folding bipod, and recontoured wooden buttstock. Sights were recalibrated for the longer barrel and the rear sight was replaced with one with windage adjustments. The RPK was introduced in 1961 and entered service in 1964. The Soviets replaced it with the RPK-74, but retained the RPK for second line infantry units and the paramilitary.

A second version, the RPKS, was made for paratroop deployment. Like the other AKS weapons, the difference was the addition of a folding wooden or metal buttstock. Nearly all mechanical parts of the RPK are interchangeable with the AK-47 and AKM.

The RPK has one significant problem; the barrel can't be changed quickly. This means the weapon can easily overheat with sustained fire from the higher capacity magazines. When the gunner exceeds a rate of fire of over 80 rounds per minute for more than a few minutes, the weapon WILL overheat. Additionally, when overheating, the fact that the weapon fires from a closed bolt, this overheating tends to cause a cookoff. Fortunately, with the other nine men of a squad carrying AK rifles, all capable of automatic fire, this problem was relatively nullified as rifle squads developed tactics to deal with the trouble. Another problem was the lack of a gas regulator mechanism, like that on the PK. When the gun is clean, this leads to a very rough action and vigorous ejection of spent casings to the right and rear. And as debris and residue accumulate on the gas port, the rate of fire for the gun slows.

Weapon	RPK			
Manufacturer		Year	P2000	
Nation	Russia		Mags	30, 40, 75
Caliber	7.62 x 39mm			
Accuracy	Group		MOA	
	Kill			
Velocity	732 m/s		Energy	
Weight	Empty	4.76 kg	ROF	SS 50
	Loaded	5.6 kg		MB -
Length	1035mm (820 mm for folded RPKS)			Burst -
Range	Effect.	400 m		Auto 150
	Max.	1500 m		Cyclic 660
Notes	Loaded with a 75 round drum magazine increases the weight to 7 kg. The RPKS empty weight is 4.86 kg			



RPK

Cyberthriller													
Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
RPK	AR	-2	T	M	7.62 Bloc	0	30	2 [SS], 7	VR	300	4.76	5.6	\$1100
RPKS	AR	-2	T	M	7.62 Bloc	0	30	[A], 30 [C]	VR	300	4.76	5.6	\$1100
Special Rules													

D20 System											
Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction	
RPK	2d8	20	ballistic	100	S, A	30	Lrg	11 lbs	18	Mil (+2)	
RPKS	2d8	20	ballistic	100	S, A	30	Lrg	11 lbs	18	Mil (+2)	
Special Rules											

FUDGE							
Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
RPK	30	SA, A, C	Mediocre	Mediocre	5	\$1100	
RPKS	30	SA, A, C	Mediocre	Mediocre	5	\$1100	
Special Rules							

Action!											
Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
RPK	5d6+2	P/L	-1	-1	3	300	2/30	30	5.6	\$1100	
RPKS	5d6+2	P/L	-1	-1	3	300	2/30	30	5.6	\$1100	
Special Rules:											

RPK-74

The RPK-74 was designed as a replacement for the RPK, to be issued alongside the AK-74 assault rifle as part of the Soviet drive to switch to their new 5.45mm caliber ammunition in the 70's. Along with switching the RPK to the RPK-74, the machine gun also replaces the PKM. The RPK-74 is to the AK-74 what the RPK is to the AKM; an oversized variant of an otherwise normal assault rifle. For the RPK-74, a wide array of high capacity magazines were developed. Along with the standard 30-round magazines the Soviets preferred, they also produced 45 and 60 round box magazines, and 75 and 90 round drums.

As with every other AK series weapon, there is an RPKS-74. And yes, you guessed it, it was made for their airborne forces and surprise! It has a folding stock. Unlike the other AKS type weapons, the RPKS-74 was reinforced in its design, allowing it to be airdropped as cargo, which apparently damaged previous airborne weapon systems. While the RPKS was a very rare weapon in the Soviet arsenals, the RPKS-74 was fairly common. There is a third version of the weapon, the RPK-74N, which permanently mounts an IR night scope. Originally, the RPK-74 was manufactured with wooden handguard and fixed wooden buttstock, the RPKS-74 being the same, except a folding metal stock. More recently, the design was modified, fitting all newly manufactured RPK-74's with plastic grips, handguard, and a folding polymer stock.

When issued, the RPK-74 most often comes with 30-round AK-74 magazines, and more rarely, the 45-round RPK-74 magazines that were made for it. Unfortunately, the most sought-after magazines are also the rarest; the 75-round drums made for the RPK-74. Along with the 60% increase in barrel length, the RPK-74, rather than the AK-74 muzzle brake, has a cut-down flash suppressor on the end of the barrel. As with the RPK, the RPK-74 shares a significant number of parts with the AK-74, and are thus interchangeable. The RPK-74 also suffers many of the same problems of the earlier RPK.

Weapon	RPK			
Manufacturer		Year	1974-	
Nation	Russia			
Caliber	5.45 x 39mm		Mags	30, 45, 60, 75, 90
Accuracy	Group		MOA	
Kill				
Velocity	960 m/s		Energy	
Weight	Empty	4.6 kg	ROF	SS 50
	Loaded	5.3 kg		MB -
Length	1060mm (820 mm for folded RPKS)			Burst -
Range	Effect.	800 m	Auto	150
	Max.	2500 m	Cyclic	600
Notes	Loaded with a 75 round drum magazine increases the weight to 7 kg.			



RPK-74

Cyberthriller													
Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
RPK-74	AR	-2	T	M	5.45 Bloc	0	30	2 [SS], 7	VR	300	4.6	5.3	\$1800
RPKS-74	AR	-2	T	M	5.45 Bloc	0	30	[A], 30 [C]	VR	300	4.6	5.3	\$1800
Special Rules													

D20 System											
Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction	
RPK-74	2d8	20	ballistic	100	S, A	30	Lrg	11 lbs	20	Mil (+2)	
RPKS-74	2d8	20	ballistic	100	S, A	30	Lrg	11 lbs	20	Mil (+2)	
Special Rules											

FUDGE							
Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
RPK-74	30	SA, A, C	Mediocre	Mediocre	4	\$1800	
RPKS-74	30	SA, A, C	Mediocre	Mediocre	4	\$1800	
Special Rules							

Action!												
Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes	
RPK-74	4d6+2	P/L	-1	-1	3	300	2/30	30	5.3	\$1800		
RPKS-74	4d6+2	P/L	-1	-1	3	300	2/30	30	5.3	\$1800		
Special Rules:												

ENFIELD SA-80 / L85

The SA-80 is the primary longarm of the British military, used by the Royal Marines and British Army. Development on the rifle began in the late 1960's, as the British military began seeking a replacement for its 7.62mm L1 SLR (a british-made version of the FN-FAL). By the early 80's, the SA-80 (abbreviated from **Small Arms** for the **80's**) had resulted in two weapon concepts; the SA80 IW (Infantry Weapon) and the SA80 LSW (Light Support Weapon). Originally, the rifle was designed to fire a proprietary 4.85mm round produced by Enfield. However, with the choice of the Belgian-design SS-109 5.56mm round as NATO's standard small caliber munition, designers were forced to redesign the SA-80 around that bullet, and this particular change was only the tip of the iceberg as far as problems with this weapon are concerned. Design completed, the SA80 sat in limbo until it was finally adopted by the British military in 1984, thanks to the delays caused by the Falklands War of 1982-83.

The original SA80 weapons delivered, both the L85 and L86 models, there were some serious problems. The weapon was unreliable, requiring cleaning more frequent than the original issue of M-16's to the US Army! To make matters worse, the maintenance procedure was troublesome as well, leading to a lot of weapons improperly assembled or maintained by the troops using them. Maintenance was so bad, in fact, that there were regular reports of the rifle simply falling apart in the hands of soldiers in the field. Additionally, some of the L85A1 components with not ruggedly made and were easily dented if dropped. This was a particularly critical problem with the weapon's steel magazines and the rifle's magazine well! If the magazine well hit the ground from 4 feet up, the rifle was made useless until repaired. A final problem that no amount of upgrading can correct is that most of the weapon's weight is located toward the buttstock, which only serves to increase muzzle climb in the weapon. After years of listening to soldiers' complaints, the decision was made in 1997 to upgrade the rifle.

Between 2000-2002, some 200,000 of the 320,000 L85A1 rifles in service with the British military were upgraded to the L85A2 configuration, which got rave reviews from officials. Those officials were immediately proven wrong, as troops serving in Afghanistan reported that all the old problems with the rifle remained as serious issues to be dealt with. Currently, the fate of the L85 is up in the air. Serious discussions are underway about replacing the rifle with something new, most likely the H&K G36 assault rifle. The British military is also staging an Advanced Rifle competition, for with the Belgian F2000 is a frontrunner, with a goal of fielding an advanced rifle by 2006. But the L85 isn't completely doomed quite yet. The British Army is undertaking a retraining program, as studies have indicated that all the problems with the rifle revolve around poor maintenance practices. The hope is that if the troops can finally get the maintenance right, the rifle will have not only have its lifespan extended, the life cycle costs per rifle can be reduced as well.

The SA80 possesses a NATO standard flash suppressor. Between this and the 3-position gas regulator valve that can seal the gas venting port, the rifle can be used to fire rifle grenades. This regulator also has a middle position to enhance operation when the weapon is dirty. It can be fitted with either the SUSAT scope, or with open iron sights consisting of an elevated front sight on a heavy post and a rear dioptic sight mounted atop a carrying handle. The open sights are usually fitted on rifles issued to second line troops. Finally, there is a proprietary bayonet for the rifle, also a very poor design. The handle of the bayonet is hollow, and slips over the rifle barrel. So, when the rifle is fired, the bayonet gets too hot to handle, should there be a need to remove it.

The L85A2, among its various improvements, also includes a hammer delay mechanism that improves reliability and stability in automatic fire without reducing the cyclic rate. Other A2 changes included reconfiguring the charging handle, which deflected spent casings back into the action on the A1, thus causing stoppages. The bolt and extractor claw were altered to improve case extraction as well. These changes were finished off with a spring-loaded dust cover for the charging arm slot. This upgrade covered only 200,000 of the 323,000 L85 rifles possessed by the British government, leaving 132,000 L85A1 rifles in inventory, presumably to be sold off to a friendly government, provided there exists one that hasn't heard of the weapon's deficiencies. The upgrades were done at a cost of roughly \$160 million USD, or

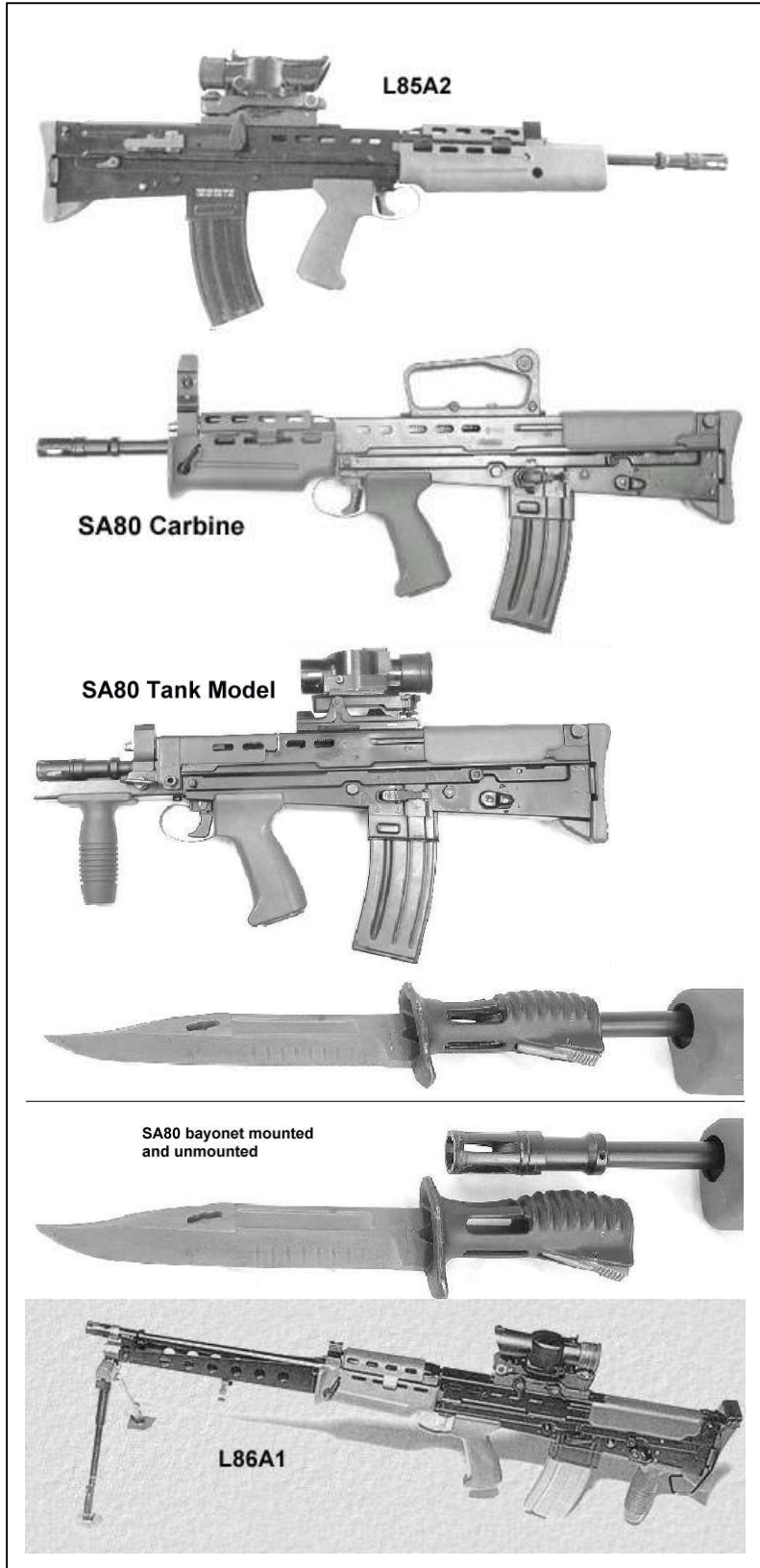
Weapon	SA-80, L85A1, L85A2			
Manufacturer	Enfield	Year	1984-1994	
Nation	Great Britain			
Caliber	5.56 x 45mm		Mags	30
Accuracy	Group	33.1 cm		MOA
	Kill			
Velocity	940 m/s		Energy	
Weight	Empty	3.8 kg	ROF	SS 50
	Loaded	5.56 kg		MB -
Length	780mm		Burst	-
Range	Effect.	500 m	Auto	150
	Max.		Cyclic	650
	Choice of sights: SUSAT 4x illuminated scope (0.8 kg) or iron sights (0.3 kg).			

Weapon	SA-80 LSW, L86A1			
Manufacturer	Enfield	Year	1985-1996	
Nation	Great Britain			
Caliber	5.56 x 45mm		Mags	30
Accuracy	Group	26.8 cm		MOA
	Kill			
Velocity	970 m/s		Energy	1767 J
Weight	Empty	5.6 kg	ROF	SS 50
	Loaded	7.36 kg		MB -
Length	900mm		Burst	-
Range	Effect.	700 m	Auto	150
	Max.		Cyclic	680
	Choice of sights: SUSAT 4x illuminated scope (0.8 kg) or iron sights (0.3 kg).			

Weapon	SA-80 Carbine			
Manufacturer	Enfield	Year	1985	
Nation	Great Britain			
Caliber	5.56 x 45mm		Mags	30
Accuracy	Group			MOA
	Kill			
Velocity	940 m/s		Energy	
Weight	Empty	3.4 kg	ROF	SS 50
	Loaded	5.16 kg		MB -
Length	780mm		Burst	-
Range	Effect.	500 m	Auto	150
	Max.		Cyclic	650
	Choice of sights: SUSAT 4x illuminated scope (0.8 kg) or iron sights (0.3 kg).			

Weapon	SA-80 Tank Model			
Manufacturer	Enfield	Year	1985	
Nation	Great Britain			
Caliber	5.56 x 45mm		Mags	30
Accuracy	Group			MOA
	Kill			
Velocity	970 m/s		Energy	1767 J
Weight	Empty	5.6 kg	ROF	SS 50
	Loaded	7.36 kg		MB -
Length	900mm		Burst	-
Range	Effect.	500 m	Auto	150
	Max.		Cyclic	680
	Choice of sights: SUSAT 4x illuminated scope (0.8 kg) or iron sights (0.3 kg).			

ENFIELD SA-80 / L85



roughly \$800 per upgraded rifle, and the process was completed in 2002, just in time for the L85A2 rifles to see combat for the very first time on the dusty trails of war-torn Afghanistan, where it was discovered the upgrade fixed nothing.

Along with the L85A1, the British government also procured the L86A1 Light Support Weapon. This is a Squad Automatic Weapon variant of the SA-80, modified for sustained fire. The rifle mounts a longer, heavier barrel and a metal bipod. While the rifle does enjoy improved accuracy allowing it to place single shots or short bursts on targets up to 400 meters away, the rifle really isn't any better suited for use in sustained fire than the L85A1 or L85A2. In fact, there is one documented case of how unsuitable the L85 is for sustained fire. At the end of target practice, a gunnery range officer collected all unfired ammunition, totaling some 10 to 12 magazines of ammunition, the proceeded to fire all the ammunition through the weapon, stopping only long enough to swap magazines and recharge the weapon to continue firing. After firing the ammunition, the gun effectively welded itself solid as it was left to cool down, which destroyed the rifle. The only good point is that while the weapon was hot enough to fuse its moving metal parts together once left at rest for more than 10 seconds, the rifle design didn't heat to the point of experiencing a cook-off. The lack of high capacity magazines that can be used with a bullpup rifle also renders the weapon incapable of producing sustained fire. The L86A1 didn't serve long as the British SAW. After Desert Storm, the Ministry of Defense began replacing it with the FN Herstal Minimi.

The third most common variant of the rifle is the L98A1, used in basic training to provide rifle training for cadets and recruits. The L98A1 has the entire inner workings of the assault rifle replaced with a completely manually operated assembly, complete with an enlarged recharging handle that the shooter must cycle in order to extract the spent casing and reload the rifle from the magazine. Typically, the L98A1 is mounted with the open iron sights rather than the SUSAT sight. It can fire either 5.56mm SS-109 rounds, or with an adapter, fire far less expensive .22 LR rounds. There is also a dummy version of the rifle, the L98A1 "Drill Practice" Cadet weapon. It can be fitted with a loaded magazine, but cannot chamber a round.

Aside from these primary versions of the SA80, there were two other rifles produced in limited quantities. First is the L85 Carbine. It is an L85A1 frame fitted with a 442mm barrel (reduced by 68 mm) and the L86A1's foregrip. Less than 50 of these rifles were manufactured for a phantom contract for an unspecified southeast asian country (rumors say Thailand).

The final rifle was the SA-80 Mini, or the SA80 Tank Model, designed as an ultra-short carbine for use as a PDW by vehicle crews. The barrel ends barely inches ahead of the trigger guard, and the weapon requires a special clamp-on extension that clamps to the upper frame over the trigger and extends under the barrel to support a vertical grip.

There was also a carbine version of the rifle produced in very limited quantities, presumably it was planned to be a weapon for second line

troops or vehicle crews. Lastly, there is the L98A1, a manually operated semiautomatic version of the rifle used for basic training of new recruits.

Excluding the L98A1, 80% of the parts of the various SA-80 weapons are interchangeable.

ENFIELD SA-80 / L85

Cyberthriller													
Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
L85A1	AR	+1	T	M	5.56 N	0	30	2 [SS], 7 [AB], 32 [C]	UR	500	3.8	5.56	\$785
L85A2	AR	+1	T	M	5.56 N	0	30		ST	500	3.8	5.56	\$1200
L85 Carbine	AR	0	T	M,O	5.56 N	0	30		UR	300	3.4	5.16	\$560
L85 Tank Model	AR	-1	J	M,O	5.56 N	0	30		UR	200	3.0	4.76	\$445
L86A1 Light Support Weapon	AR	+2	N	M	5.56 N	+1	30		ST	700	5.6	7.36	\$1800
L98A1	RIF	0	T	M	5.56 N	0	30	2 [SS]	VR	400	3.8	5.56	\$445
Special Rules													

D20 System											
Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction	
L85A1	2d8	20	ballistic	165	S, A	30	Med	12 lb	17	Mil (+3)	
L85A2	2d8	20	ballistic	165	S, A	30	Med	12 lb	18	Mil (+3)	
L85 Carbine	2d8	20	ballistic	100	S, A	30	Med	11 lb	16	Mil (+3)	
L85 Tank Model	2d8	20	ballistic	65	S, A	30	Sm	10.5 lb	15	Mil (+3)	
L86A1 Light Support Weapon	2d8	20	ballistic	230	S, A	30	Lrg	16 lb	20	Mil (+3)	
L98A1	2d8	20	ballistic	135	S	30	Med	12 lb	15	Res (+2)	
Special Rules											

FUDGE							
Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
L85A1	30	SA, A, C	Good	Good	4	\$785	
L85A2	30	SA, A, C	Good	Good	4	\$1200	
L85 Carbine	30	SA, A, C	Mediocre	Fair	4	\$560	
L85 Tank Model	30	SA, A, C	Poor	Mediocre	4	\$445	
L86A1 Light Support Weapon	30	SA, A, C	Great	Good	4	\$1800	
L98A1	30	SA, A, C	Fair	Fair	4	\$445	
Special Rules							

Action!											
Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
L85A1	5d6	P/L	+1	+1	3	500	2/32	30	5.56	\$785	
L85A2	5d6	P/L	+1	+1	3	500	2/32	30	5.56	\$1200	
L85 Carbine	5d6	P/L	0	0	3	300	2/32	30	5.16	\$560	
L85 Tank Model	5d6	P/L	-1	-2	3	200	2/32	30	4.76	\$445	
L86A1 Light Support Weapon	5d6	P/L	+1	+2	4	700	2/32	30	7.36	\$1800	
L98A1	5d6	P/L	0	0	2	400	2/32	30	5.56	\$445	
Special Rules:											

The SMAW is a shoulder-fired 83mm portable weapon system capable of firing several different kinds of rockets. The launcher consists of a fiberglass launch tube, a 9mm spotting rifle, an electro-mechanical firing mechanism, open battle sights, and mounting paraphernalia for the MK 24 optical and AN/PVS-4 night sights. It fires the High Explosive Dual Purpose (HEDP) rocket effective against bunkers, masonry, concrete walls, and light armor. The other round, the High Explosive Anti Armor (HEAA) rocket, is effective against most modern armored vehicles provided those vehicles are not covered with armor enhancements like reactive armor plating. A third round is the Follow Through Grenade (FTG), which utilized a tandem warhead concept for breaching walls. A shaped charged front warhead allows for penetrating a brick, concrete or other hardened wall, and a full caliber grenade follows that blast through the wall, detonating inside the structure. During Operation: Iraqi Freedom, the U.S. Marines began testing a new warhead for the SMAW, a thermobaric rocket. This new rocket was rather hit or miss, according to the Marines after-action reports. Two rounds were fired on similar one-story masonry-type structures. While one penetrated the structure and detonated, causing the structure to practically disintegrate, while in the second instance, another unit attempted to breach a wall with the rocket after more traditional efforts failed in breaching the door. The round bounced off the wall and exploded harmlessly outside the structure. These warheads were developed on a very tight schedule, having gone from paper to product in a development cycle of less than a year.

Weapon	M-141 Bunker Defeating Munition			
Manufacturer	Talley Defense Systems	Year	1989	
Nation	United States			
Caliber	84mm rocket		Mags	single shot
Accuracy	Group		MOA	
	Kill		Pen	400mm
Velocity	290 m/s		Energy	
Weight	Empty		ROF	SS 1
	Loaded	7.14 kg		MB -
Length	813 mm		Burst	-
Range	Effective	500 m	Auto	-
	Max.	1200 m	Cyclic	-
Notes				

Introduced in 1984, the SMAW launcher is based on the Israeli B-300 anti-tank system. It is a weapon exclusive to the U.S. Marines, and they have 1,364 of these launchers in inventory. The weapon has displayed a number of deficiencies. This includes bore damage that requires the weapon to be resleeved with the gel coating used to protect them, training deficiencies that result in operator error requiring rewriting of the training manuals, fouling of the trigger assembly by environmental debris requiring a cleaning kit and redesigned trigger components, and loose spotting rifle mounts that result in a loss of boresighting, requiring a replacement mounting bracket kit. One final problem exists for the weapon and that is its ineffectiveness against moving targets. The weapon fires an unguided rocket, after all. This is being corrected by the development of a new optical sight specific to the weapon, which will allow it to more effectively aim at moving targets.

The manufacturer of the system, Talley Defense Systems, has recently introduced the SMAW-LEAP (Low-signature Encased Assault Projectile) system. This is a new propulsion system designed to reduce the backblast and overpressure generated by the weapon, allowing marines to safely fire the weapon in confined areas and MOUT environments.



SMAW

Cyberthriller													
Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
SMAW	HVY	0	N	M, O	83mm	-	1	1	VR	500	7.54	-	\$13,000
HEDP Rocket	-	-	-	-	PEN 3, 12D6, 10m	0	-	-	VR	-	5.9	-	\$1150
HEAA Rocket	-	-	-	-	PEN 10, 4D6, 3m	0	-	-	VR	-	6.9	-	\$1900
FTG Rocket	-	-	-	-	PEN 1, 8D6, 3m	0	-	-	VR	-	6.9	-	\$900
Thermobaric Rocket	-	-	-	-	PEN 4, 15d6, 35m	0	-	-	VR	-	6.9	-	\$2300
Special Rules													

D20 System												
Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction		
SMAW	-	-		165	SS	1	Lrg	17 lb	26	Mil (+3)		
HEDP Rocket	PEN 3, 15d6, 30'	-	concussion	165	-	-	med	13 lb	18	Mil (+3)		
HEAA Rocket	PEN 10, 9d6, 10'	-	fire	165	-	-	med	15 lb	20	Mil (+3)		
FTG Rocket	PEN 1, 9d6, 5'	-	fire	165	-	-	med	15 lb	17	Mil (+3)		
Thermobaric Rocket	PEN 4, 15d6, 90'	-	fire	165	-	-	med	15 lb	20	Mil (+3)		
Special Rules												

FUDGE							
Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
SMAW	1	SS	Good	Fair	-	\$13,000	
HEDP Rocket	-	-	-	-	12	\$1150	Poor Penetration
HEAA Rocket	-	-	-	-	4	\$1900	Fair Penetration
FTG Rocket	-	-	-	-	8	\$900	Terrible Penetration
Thermobaric Rocket	-	-	-	-	15	\$2300	Poor Penetration
Special Rules							

Action!												
Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes	
SMAW	-	-	0	+1	4	500	1	1	7.54	\$13,000		
HEDP Rocket	5d6 (53)	P/L	-	-	-	-	-	-	5.9	\$1150		
HEAA Rocket	17d6 (175)	P/L	-	-	-	-	-	-	6.9	\$1900		
FTG Rocket	8d6 (17)	P/L	-	-	-	-	-	-	6.9	\$900		
Thermobaric Rocket	15d6 (70)	B/L	-	-	-	-	-	-	6.9	\$2300		
Special Rules:												

SA-7 GRAIL / 9K32M STRELA-2M

The 9K32M Strela-2M (designated the SA-7 Grail by NATO) is a man-portable, shoulder-fired, low-altitude Surface-to-Air Missile, similar to the Redeye SAM fielded by the US Army and Marines during the Vietnam War. The missile has an HE warhead and passive infrared homing guidance. The system is composed of the missile in launch tube, a reloadable gripstock, and a thermal sensor/battery. The SA-7 series is a first generation SAM MANPADS (Surface-to-Air Missile based **MAN** Portable Air Defense System), developed between 1959 and 1966. Since entering service in 1968, over 50,000 Strela-2 missiles have been manufactured by the Russian and Soviet regimes alone. The system can be fitted with an IFF sensor connected to the operator's helmet, in order to prevent battlefield fratricide. Additionally, a pair of primitive RF antenna attached to the unit, picking up aircraft radar signals and generating a tone signalling the approach of an aircraft as well as determining the rough direction of approach. Although the SA-7 series is limited in range, speed and altitude, it does force enemy pilots to fly above the minimum radar ceiling of the more potent regimental or divisional air defense systems.

The SA-7 series is a tail-chase missile system, with its effectiveness depending upon its ability to lock onto a heat source from the target, usually the exhaust plume of a low flying fixed wing or rotary wing aircraft. Being a tail-chase heat-seeking system, it can only be fired on an outgoing aircraft, meaning it can only be fired in a retaliatory attack after the enemy aircraft has completed its close support sortie. However, the SA-7 has a surprisingly wide angle of acquisition, allowing the operator several extra critical seconds to acquire the target before it flies out of range, thereby increasing the missile's kill rate. The missiles are impact fused, requiring them to actually strike the aircraft before they detonate.

The SA-7 isn't a missile particularly successful in its task. During the Vietnam War, they had a 33% kill probability against helicopters. This rate dropped significantly after US choppers began outfitting with flares for countermeasures. During the 1973 Arab-Israeli War, over 5,000 SA-7 missiles were fired at Israeli aircraft, bringing down only two and damaging four others, producing a kill probability against high altitude and high speed aircraft of less than 0.04% and a hit probability of only slightly over 1%. SA-7s have been used in attempts to shoot down airliners. Two SA-7s were fired on an Israeli airliner launching from Kenya in November 2002, around the same time an Israeli hotel in the same area was destroyed in a terrorist attack. The attack occurred about 50 kilometers (30 miles) from the airport and caused minor damage to the aircraft, which continued its flight uninterrupted all the way to Israel under fighter escort.



While claims are that the airliner was miraculously saved by the fact that the missiles were probably from a defective production run, many believe the claims are patently false. At 50 kilometers, the airliner was in the upper reaches of the missile's limits and flying near the maximum trackable airspeed for the weapon as well. Instead, it is now believed that those two SA-7's performed with equal capability as all of the other thousands of SA-7's fired in the last 30 years. The attack simply occurred at a position that reduced the missile's kill and hit probabilities, and the airliner was simply either a mass too large for the missile to significantly damage or sufficiently new that the missile didn't adequately damage the materials it was made from. November 1975 saw the first recorded SAM attack on a civilian airliner when a Skyvan aircraft was shot down over Angola. Another notable incident was on October 10, 1998, when a Boeing 727 was shot down over Congo. On April 6, 1994, the airliner carrying the President of Rwanda was shot down, killing all aboard, and sparking the genocidal civil war in that nation that killed over 500,000 people in its first year. Since 1975, there have been 35 such incidents, using mostly SA-7 Grails, though a number have been determined to involved FIM-92 Stingers and SA-16s. Of

Weapon		9K32 Strela-2 (SA-7A Grail)	
Manufacturer		Year	1968
Nation	Russia		
Caliber	70mm missile	Mags	1
Accuracy	Group		MOA
	Kill	20%	
Velocity	385 m/s	Energy	
Weight	Empty	5.3 kg	ROF
	Loaded	14.5kg	SS
Length	1470mm		Burst
Range	Min.	800 x 50m	Auto
	Max.	3.2x2km	Cyclic
Notes	Cannot track aircraft moving faster that 220 m/s.		

Weapon		9K32M Strela-2M (SA-7B Grail)	
Manufacturer		Year	1968-
Nation	Russia		
Caliber	70mm Missile	Mags	30
Accuracy	Group		MOA
	Kill	33%	
Velocity	580 m/s	Energy	
Weight	Empty	5.6 kg	ROF
	Loaded	14.9 kg	SS
Length	1,490mm		Burst
Range	Effect.	800x30m	Auto
	Max.	42.x2.3km	Cyclic
Notes	Cannot track aircraft moving faster than 260 m/s		

Weapon		9K32M Strela-2M 1972 Version	
Manufacturer	Enfield	Year	1972-
Nation	Great Britain		
Caliber	5.56 x 45mm	Mags	30
Accuracy	Group	33%	MOA
	Kill		
Velocity	580 m/s	Energy	
Weight	Empty	5.6 kg	ROF
	Loaded	7.36 kg	SS
Length	1490mm		Burst
Range	Effect.	500x18m	Auto
	Max.	5.5x4.5km	Cyclic
Notes	Cannot track aircraft moving faster than 260 m/s.		

SA-7 GRAIL / 9K32M STRELA-2M

these 34 incidents, only one (the most recent one, against the Israeli airliner) was against a commercial airliner. 24 of the 34 attacks resulted in the loss of the aircraft and cause 585 casualties.

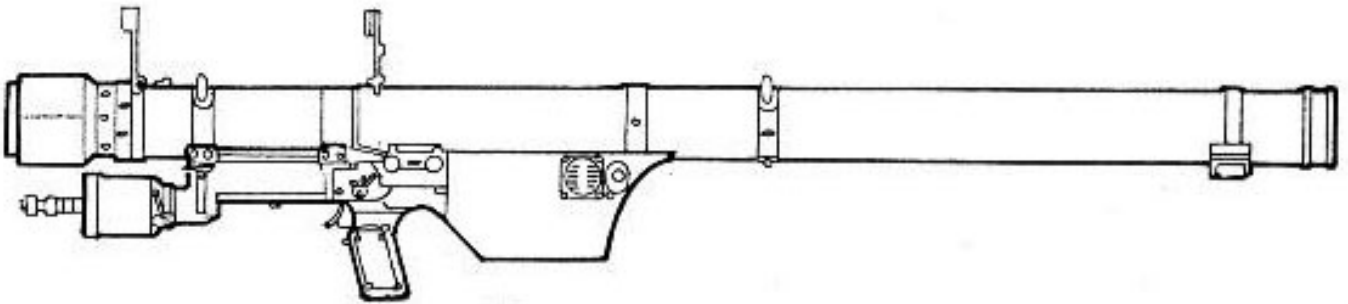
The original Strela-2 entered service in 1968, capable of a slant range of roughly 3.6 kilometers, with an engagement ceiling of 1500 meters and a maximum airspeed of Mach 1.4. The minimum range was 800 meters by 50 meters altitude, with a maximum range of 3.2 km by 2 km altitude. The system was a hefty 5.3 kg for the launcher and 9.2 kg for the missile. These early Strelas used a lead sulfide detector, which meant that if fired within 20 degrees of the sun, the missile would attempt to blow the sun out of the sky rather than the target aircraft. Heat emanating from the ground could also confuse the weapon when fired against targets flying under 150 meters. Duck behind a hill and the missile could easily end up plowing into the dirt.

The original missile was replaced inside a few months of the 1968 service entry by an improved Strela-2M, which used a boosted propellant to increase the range and speed. This increased performance to a range of 4.2 km, with a ceiling of 2300 meters and a speed of Mach 1.75. The 2M also included a better detector, which helped to alleviate the problems caused by the sun, ground heat and decoy flares. The operational window was a minimum range of 800 meters by an altitude of 30 meters, and a maximum range of 4200 meters with a ceiling of 2300 meters.

1972 saw additional upgrading to the Strela-2M, though this series of upgrades wasn't differentiated from the previous version. For this model, the upgrades mainly involved the rocket motor. The operational window was expanded to a minimum range of 500 meters with an altitude of 18 meters, and a maximum range of 5,500 meters with an altitude of 4,500 meters, literally doubling the kill window for the missile.

In 1997, the Strela-2M began an upgrade program, fitting the two-regime IR homing system and non-cooled IR detector of the SA-18 Grouse, combined with a sophisticated countermeasure filter. This should raise the kill probability against unprotected small aircraft to as much as 30-48%, and against aircraft with countermeasures, 24-30%. These improved SA-7Bs function out to 5.5 km with a ceiling of 4500 meters.

The Strela-2 has been manufactured by a number of other nations, both under legal license and illegally. These nations include Yugoslavia, China, Pakistan, and Egypt. Invariably, every other nation manufacturing their own version of the Strela-2 has made improvements upon the design.



SA-7 GRAIL / 9K32M STRELA-2M

Cyberthriller													
Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
SA-7A Grail/ Strela-2	MIS	0	N	M	45% /20%	0	1	1/10	ST	3600	5.3	14.5	\$800
SA-7B Grail / Strela-2M	MIS	0	N	M	50% /33%	0	1	1/10	ST	4200	5.6	14.9	\$1000
SA-7B Grail / Strela (1972)	MIS	0	N	M	60% /33%	0	1	1/10	ST	6000	5.6	14.9	\$1000
Special Rules	The listing for Ammo is the weight of the missile warhead for determining the damage. Under accuracy (ACC), the weapon lists two numbers, first the hit probability, the odds the missile will strike a slow low altitude aircraft in its kill window, and the second is the kill probability, the odds that struck aircraft will be knocked out of the sky by the missile's detonation.												

D20 System												
Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction		
SA-7A Grail/ Strela-2	45% / 20%	-	slashing	-	SS	1	Lrg	32 lb	17	Mil (+3)		
SA-7B Grail / Strela-2M	50% / 33%	-	slashing	-	SS	1	Lrg	32 lb	18	Mil (+3)		
SA-7B Grail / Strela (1972)	60% / 33%	-	slashing	-	SS	1	Lrg	32 lb	18	Mil (+3)		
Special Rules	Simulating anti-aircraft missiles under D20 Modern is a bit complicated. Do you give it a to-hit target number and apply damage according to the explosive warhead? Or do you use the statistical data for the missile? Screw it, I'm going with the statistical data. Under damage, there are two numbers presented. These are the hit probability and kill probability, two statistics common to all AA missiles. The first number indicates the percentage out of 100 missiles that are expected to strike aircraft flying in proper conditions. The second is the percentage out of 100 missiles that will knock out of the sky an aircraft flying in the proper conditions. Typically, the hit probability is 2.5 to 3.5 times the kill probability. For example, the SA-7B is rated as 50% / 33%. You roll 1D100. If you roll under 50, the missile hits the aircraft and causes some amount of damage, but not enough to bring down the aircraft. If the roll is under 33%, the missile not only hits the aircraft, but causes enough damage to bring it down. For anti-aircraft missiles, any roll under 05% results in enough kill damage to cause the aircraft to break up in midair.											

FUDGE							
Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
SA-7A Grail/ Strela-2	1	SS	Superb	Mediocre	Poor	\$800	
SA-7B Grail / Strela-2M	1	SS	Superb	Fair	Mediocre	\$1000	
SA-7B Grail / Strela (1972)	1	SS	Superb	Fair	Mediocre	\$1000	
Special Rules							

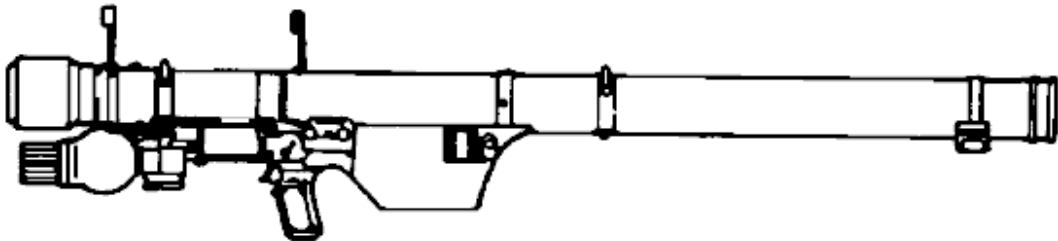
Action!												
Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes	
SA-7A Grail/ Strela-2	13+	-	11+	-	4	3600	1/20r	1	15.7	\$800		
SA-7B Grail / Strela-2M	12+	-	11+	-	4	4200	1/20r	1	15.7	\$1000		
SA-7B Grail / Strela (1972)	12+	-	10+	-	4	6 km	1/20r	1	15.7	\$1000		
Special Rules:												

SA-14 GREMLIN / 9K34 STRELA-3

The 9K34 Strela-3 (designated the SA-14 Gremlin by NATO) is a second generation SAM MANPADS (Surface-to-Air Missile based MAN Portable Air Defense System), deployed in 1978 as a replacement for the SA-7. The missile employs an improved system for overcoming countermeasures, as well as increased range and altitude. It is a massive improvement over the Strela-2M, as the Strela-3 is capable of striking targets not only from chase angles, but from confrontation angles as well. This increase in targeting performance is due to the nitrogen gas cooled lead sulfide sensor and enhanced filters on the seeker electronics that allow such broad angles of acquisition as well as compensating for such countermeasures as exhaust shrouds and IRCM flares.

The Strela-3 also utilizes a warhead nearly twice the weight of the SA-7, making up for the added weight with reducing the weight of the electronics and using a new solid propellant rocket motor, as well as improving the missile's aerodynamic performance. This gives the SA-14 missile a range of 4.5 kilometers to an altitude of 3 kilometers. The SA-14 missile weighs about a half kilogram more than that of the SA-7B. The targeting and tracking equipment of the Strela-3 provides it a level of effectiveness along the same lines as the 1997 upgrades of the Strela-2M. The operational window of the Strela-3 is a minimum range of 600 meters with an altitude of 50 meters, with a maximum range of 6 kilometers at an altitude of 6 kilometers.

Weapon	9K34 Strela-3 (SA-14 Gremlin)			
Manufacturer		Year	1978-	
Nation	Russia			
Caliber	70mm missile		Mags	1
Accuracy	Group			MOA
	Kill	40%		
Velocity	600 m/s		Energy	
Weight	Empty	2.95 kg	ROF	SS
	Loaded	13.25kg		MB
Length	1400mm		Burst	-
Range	Min.	600x50m	Auto	-
	Max.	6x6km	Cyclic	-
Notes				



SA-14 GREMLIN / 9K34 STRELA-3

Cyberthriller													
Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
SA-14 Gremlin / Strela-3	MIS	60% / 40%	N	M		0	1	1/10	ST	4500	5.3	14.5	\$1850
Special Rules	The listing for Ammo is the weight of the missile warhead for determining the damage. Under accuracy (ACC), the weapon lists two numbers, first the hit probability, the odds the missile will strike a slow low altitude aircraft in its kill window, and the second is the kill probability, the odds that struck aircraft will be knocked out of the sky by the missile's detonation.												

D20 Modern											
Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction	
SA-14 Gremlin / Strela-3	60% / 40%	-	slashing	-	SS	1	Lrg	32 lb	20	Mil (+3)	
Special Rules	Simulating anti-aircraft missiles under D20 Modern is a bit complicated. Do you give it a to-hit target number and apply damage according to the explosive warhead? Or do you use the statistical data for the missile? Screw it, I'm going with the statistical data. Under damage, there are two numbers presented. These are the hit probability and kill probability, two statistics common to all AA missiles. The first number indicates the percentage out of 100 missiles that are expected to strike aircraft flying in proper conditions. The second is the percentage out of 100 missiles that will knock out of the sky an aircraft flying in the proper conditions. Typically, the hit probability is 2.5 to 3.5 times the kill probability. For example, the SA-7B is rated as 50% / 33%. You roll 1D100. If you roll under 50, the missile hits the aircraft and causes some amount of damage, but not enough to bring down the aircraft. If the roll is under 33%, the missile not only hits the aircraft, but causes enough damage to bring it down. For antiaircraft missiles, any roll under 05% results in enough kill damage to cause the aircraft to break up in midair.										

Cyberthriller													
Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
SA-14 Gremlin / Strela-3	MIS	0	N	M	60% / 40%	0	1	1/10	ST	4500	5.3	14.5	\$1850
Special Rules													

D20 System											
Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction	
SA-7A Grail/ Strela-2	60% / 40%	-	slashing	-	SS	1	Lrg	32 lb	20	Mil (+3)	
Special Rules											

FUDGE							
Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
SA-7A Grail/ Strela-2	1	SS	Superb	Fait	Mediocre	\$38,000	
Special Rules							

Action!												
Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes	
SA-7A Grail/ Strela-2	12+	-	10+	-	4	3600	1/20r	1	15.7	\$38,000		
Special Rules:												

TABUK

The Tabuk is the Iraqi state-manufactured, licensed variant of the AK-47 assault rifle. The Tabuk reflects the original AK-47 assault rifle design, rather than the improved AKM, evinced primarily by the retention of the wooden buttstock, foregrip and pistol grip. These are made of lighter woods to reduce weight over the original AK-47. The stock is also longer and shaped differently, making the rifle more comfortable for use by the average Iraqi soldier. The Tabuk also includes a number of additional alterations. First is the altered flash suppressor, which is reshaped and recut to vent more gas upward to help fight muzzle climb with automatic fire. The other significant change shows the strong influence of the middle east. The Tabuk includes an anti-aircraft sight, allowing the weapon to be fired at aircraft. The sight is also useful for targeting the GP-25, should the grenade launcher be mounted to the rifle.

The Tabuk assault rifle was also manufactured to the 5.56mm NATO standard caliber, meant for sales on the international arms market. The rifle was manufactured in this configuration in very limited quantities with no known international sales. The 7.62mm rifle is made with only the wooden stock, while the 5.56mm version was made available with either a wooden fixed stock or a folding metal stock, in the fashion of the AK-47 and AKS-47.

Additionally, the Iraqis produce the Tabuk Short Assault Rifle. This is a carbine version of the Tabuk, with a shortened barrel, cut down flash suppressor, and folding stock, resulting in a much smaller rifle. The grips are reshaped and made of plastic as well. The cut muzzle allows the use of Soviet rifle grenades. Along with using the 30-round magazines of the AK-47, it can also use specially made 20-round magazines as well, which are issued for paramilitary use rather than military use.

Weapon		Tabuk Assault Rifle	
Manufacturer		Year	P2000
Nation	Iraq		
Caliber	7.62x39mm Bloc	Mags	30
Accuracy	Group		MOA
	Kill		
Velocity		Energy	
Weight	Empty	3.75 kg	ROF
	Loaded	4.35 kg	SS
			MB
Length	870mm		Burst
			3
Range	Effect.	300 m	Auto
	Max.	1500m	Cyclic
			600
Notes			

Weapon		Tabuk Short Assault Rifle	
Manufacturer		Year	P2000
Nation	Iraq		
Caliber	7.62x39mm Bloc	Mags	30
Accuracy	Group		MOA
	Kill		
Velocity	710 m/s		Energy
Weight	Empty	3.21 kg	ROF
	Loaded	3.81 kg	SS
			MB
Length	870mm		Burst
			3
Range	Effect.	300 m	Auto
	Max.	1500m	Cyclic
			600
Notes			



TABUK

Cyberthriller													
Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
Tabuk Assault Rifle	AR	-2	T	M	7.62 Bloc	0	30	2 [SS], 5 [A], 30 [C]	VR	300	3.75	4.35	\$790
Tabuk 5.56mm Assault Rifle	AR	-2	T	M	5.56 N	0	30		VR	500	3.25	3.75	\$588
Tabuk Short Assault Rifle	AR	-2	T	M	7.62 Bloc	0	30		VR	300	3.21	3.81	\$750
GP-25 Grenade Launcher	ACC	-4	J	M	40mm LVG	0	1	1/2	VR	50-400	1.5	1.75	\$150
VOG-25 Fragmenting Grenade	-	-	-	M	4D6, 5m r	0	-	-	VR	-	-	0.25	\$10
VOG-25P "Frog" Bounding Fragmenting Grenade	-	-	-	M	5D6, 6m r	0	-	-	VR	-	-	0.25	\$10
Special Rules	GP-25 Ammo: VOG-25 Impact detonation fragmentation grenade, 6 meter blast radius, weighs 0.25 kg. VOG-25P bounding fragmentation "Frog", airburst at altitude of 50 to 150 cm, 6 meter blast radius. Both rounds detonate via self-destruct 14 seconds after firing if they aren't triggered otherwise.												

D20 System												
Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction		
Tabuk 7.62mm Assault Rifle	2d8	20	ballistic	100	S, A	30	Lrg	11 lbs	16	Res (+2)		
Tabuk 5.56mm Assault Rifle	2d8	20	ballistic	100	S, A	30	Lrg	11 lbs	15	Res (+2)		
Tabuk Short Assault Rifle	2d8	20	ballistic	100	S, A	30	Lrg	11 lbs	16	Res (+2)		
GP-25 Grenade Launcher	-	-	-	135	SS	1	Sm	3 lbs	11	Mil (+3)		
VOG-25 Fragmenting Grenade	3d6, 5m r.	-	Slashing	-	-	-	Sm	0.5 lb	3	Mil (+3)		
VOG-25P "Frog" Bounding Fragmenting Grenade	4d6, 6m r.	-	Slashing	-	-	-	Sm	0.5 lb	3	Mil (+3)		
Special Rules	GP-25 Ammo: VOG-25 Impact detonation fragmentation grenade, 6 meter blast radius, weighs 0.25 kg. VOG-25P bounding fragmentation "Frog", airburst at altitude of 50 to 150 cm, 6 meter blast radius. Both rounds detonate via self-destruct 14 seconds after firing if they aren't triggered otherwise.											

FUDGE							
Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
Tabuk 7.62mm Assault Rifle	30	SA, A, C	Mediocre	Mediocre	4	\$790	
Tabuk 5.56mm Assault Rifle						\$588	
Tabuk Short Assault Rifle						\$750	
GP-25 Grenade Launcher	1	SS	Fair	Mediocre	-	\$150	
VOG-25 Fragmenting Grenade	-	-	-	-	5	\$10	
VOG-25P "Frog" Bounding Fragmenting Grenade	-	-	-	-	5	\$10	
Special Rules	GP-25 Ammo: VOG-25 Impact detonation fragmentation grenade, 6 meter blast radius, weighs 0.25 kg. VOG-25P bounding fragmentation "Frog", airburst at altitude of 50 to 150 cm, 6 meter blast radius. Both rounds detonate via self-destruct 14 seconds after firing if they aren't triggered otherwise.						

Action!												
Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes	
Tabuk 7.62mm Assault Rifle	4d6+2	P/L	-1	-1	3	300	2/30	30	4.35	\$790		
Tabuk 5.56mm Assault Rifle									3.75	\$588		
Tabuk Short Assault Rifle									3.81	\$750		
GP-25 Grenade Launcher	-	-	-1	0	2	400	1/3r	1	1.75	\$150		
VOG-25 Fragmenting Grenade	6d6	P/L	-	-	-	-	-	-	0.25	\$10		
VOG-25P "Frog" Bounding Fragmenting Grenade	6d6	P/L	-	-	-	-	-	-	0.25	\$10		
Special Rules:	GP-25 Ammo: VOG-25 Impact detonation fragmentation grenade, 6 meter blast radius, weighs 0.25 kg. VOG-25P bounding fragmentation "Frog", airburst at altitude of 50 to 150 cm, 6 meter blast radius. Both rounds detonate via self-destruct 14 seconds after firing if they aren't triggered otherwise.											

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appears on page 10. No material in the chemical weapons section is considered Open Content.

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FUDGE Notices ABOUT FUDGE

Fudge is a role-playing game written by Steffan O'Sullivan, with extensive input from the Usenet community of rec.games.design. The basic rules of Fudge are available on the internet at <http://www.fudgerpg.com> and in book form from Grey Ghost Games, P.O. Box 838, Randolph, MA 02368. They may be used with any gaming genre. While an individual work derived from Fudge may specify certain attributes and skills, many more are possible with Fudge. Every Game Master using Fudge is encouraged to add or ignore any character traits. Anyone who wishes to distribute such material for free may do so; merely include this ABOUT FUDGE notice and disclaimer (complete with Fudge copyright notice). If you wish to charge a fee for such material, other than as an article in a magazine or other periodical, you must first obtain a royalty-free license from the author of Fudge, Steffan O'Sullivan, P.O. Box 465, Plymouth, NH 03264.

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ALTERNATE REALITIES PUBLICATIONS CATALOG

Big Bang: The Mostly Illustrated RPG Guide to Modern Weapons

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

CyberThriller

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

Modern Supernatural

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

Neo-City Sourcebook

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

Neo-City Adventures

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

Brush Wars

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

Black Book of Terrorism

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

MAD Grafitti

Welcome to the world of special operations police units. Originally, there was SWAT, the original police special ops unit formed back in the 1960's, trained in the tactics of storming a building and dealing with heavily armed criminals. With the new millenium came ESWAT, a new police special ops unit designed to face new threats and

cross-trained with the military to handle terrorism and weapons of mass destruction, as well as the usual SWAT duties. Now comes the latest evolution in police special ops, MAD, the Miscreant Apprehension Division, the cops trained to deal with the worst threat of all, rogue cyborgs and robots. Release date TBA.

Edge Road

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

Boomtown

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

PCM - The Philadelphia-Camden Metroplex

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

Rabid Helix

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

A Year of Living Dangerously

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

SubOrbita

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

SubAqua

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

A.A. 100

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

BIG BANG

The Mostly Illustrated RPG Guide to Modern Weapons

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

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

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

