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A HISTORICAL REVIEW OF ARMALITE

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Few firearm manufacturers have captured the imagination of American Shooters as thoroughly as ArmaLite. ArmaLite first rose to prominence during the late 1950s, with a series of innovative rifles that looked unlike any produced before. Although ArmaLite itself was unable to reap the full benefit of its work, the ArmaLite design team created innovative designs that still are setting the standard by which new models are evaluated.

There is great interest in the history of ArmaLite. This document is a team effort that summarizes ArmaLite's origin in 1954, its corporate shifts and changes over the years, and the developments that have taken place over that period. It ends with the current status of the new company today, 56 years later. It is the official corporate history of ArmaLite.

This document was established in an ArmaLite letter dated March 1974, and subsequently updated in 1998, 1999, 2004, and 2010. It includes information taken from ArmaLite documents whenever possible. It remains a work in process, with information, updates, and corrections continuing to arrive from ex-ArmaLite personnel.

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Like Colt and most other firearm manufacturers, ArmaLite has passed through a number of management and ownership phases. Each will be discussed, with the participation of company officials of the time used where available.

ARMALITE DIVISION, FAIRCHILD ENGINE AND AIRPLANE CORP.



ArmaLite was first established as a Division of Fairchild Engine and Airplane Corporation on October 1, 1954. At least two years of privately funded development preceded the Fairchild supported program. The ArmaLite Division of Fairchild is the first phase of the company's history.

There had been very little fundamental development in the small arms industry for over fifty years. Increasing military use of the machine gun and production of semiautomatic rifles were the main significant changes. No fundamental change in military riflery doctrine had been made since the latter half of the nineteenth century, and production materials and techniques were also largely unchanged. ArmaLite believed that a ready market existed for firearms of advanced design featuring lightweight, modern alloys and plastics, and economical production procedures.

The initial plan was to produce fine sporting firearms for the commercial market. It was considered likely that in due time, some of the concepts used in the commercial firearms would have acceptance by the military.

Shortly after Fairchild established the ArmaLite Division, ArmaLite was invited to submit a rifle to the U.S. Air Force as a replacement for the then-standard survival rifle. A few weeks after receiving information as to this requirement, ArmaLite submitted the AR-5, .22 Hornet Survival Rifle for Air Force evaluation. The AR-5 was adopted and designated the MA-1 Survival Rifle.

The initial success with the AR-5 led Fairchild to reverse the strategy of focusing on the commercial market first, then entering the military market. With the adoption of the AR-5 and with a quantity purchase seemingly assured, ArmaLite decided to defer entry into the commercial field until such time as their reputation and financial position were established as a result of military sales. For the next five years, almost all ArmaLite activity was directed to the development of military firearms.

The concept of using the latest technical advances in plastics and alloys was the idea of George Sullivan, Chief Patent Counsel for Lockheed Aircraft Corporation. Sullivan had started work in his own garage shop after WWII. This work came to the attention of Fairchild in 1953 when Sullivan and Paul S. Cleveland, Fairchild's Corporate Secretary, discussed the principles at a meeting of an aircraft industry committee. Cleveland called attention of this work to Richard S. Boutelle, Fairchild's president and a long-time gun enthusiast.

In 1954, Eugene Stoner, who served in the Marines during World War II and who was something of an ordnance expert, became Chief Engineer for ArmaLite. Stoner had been working on small arms independently since WWII. Stoner's patents form the basis of much of ArmaLite's work.

From the beginning, Charles Dorchester directed and coordinated all development programs, first as General Manager of the ArmaLite Division of Fairchild, later as President of ArmaLite, Inc., and still later as Chairman of the Board. The combined efforts of these three individuals from this point on resulted in revolutionary changes in combat weapon concepts.

ArmaLite's initial project, begun even before Sullivan brought ArmaLite to Fairchild's attention, was the AR-1 Parasniper, a lightweight bolt action rifle started in 1952. The 1956 success of the later AR-5 caused ArmaLite to shift its attention to military designs.

The AR-10 became the main focus of attention beginning in 1955. At that time the Army was considering the Springfield Armory T-44 (an updated Garand) and the T-48 (a version of the FN FAL) as replacements for the M1 Garand. ArmaLite hoped to present a rifle capable of displacing both models.

The AR-10 was stunningly different than any previous design. It was produced with aircraft grade aluminum receivers, and therefore weighed less than seven pounds. The lightweight material was possible because the bolt locked into a steel extension on the barrel, not into the receiver itself. The stock and other furniture were plastic, while those of the T-44 and T-48 were of wood. The configuration of the rifle itself, with its integral carrying handle and charging handle distinctively mounted within it, sparked intense curiosity.

In the end, the AR-10 wasn't able to catch up; the T-44 was adopted as the M-14 rifle in 1959. The AR-10 fell victim to both its own weaknesses, (normal in early models of any product) prejudice within the Army Ordnance Corps, and the head start of the other rifles.

Based on what they saw in the AR-10, however, other Army officials asked ArmaLite to develop a smaller version of the AR-10 in 1956. The ensuing rifle was called the AR-15. Like the AR-10, it was a developmental model. Not only was it too late to be considered against the T-44 and T-48, it didn't match the long-range marksmanship doctrine of the day.

The AR-10 was licensed to the Dutch Arsenal, Artillerie Inrichtingen, for sale on the international market. ArmaLite and its agents and assignees demonstrated the rifle around the world, but sales were limited. Even the Dutch failed to adopt the rifle built in their own arsenal. Despite the background Army interest in a smaller caliber rifle, ArmaLite licensed the designs and trademarks of the AR-10 and AR-15 to Colt's in January 1959.



Early Colt AR-15s, their magazines, and their operator's manuals were marked with ArmaLite's name. Colt's retained the AR-15 designation on commercial rifles. To this day Colt's has a model designation with the letters AR, which stands for "ArmaLite".

The mid-to-late 1950s was a period of intense development at ArmaLite. The engineering staff was especially strong, with Eugene Stoner, James Sullivan, and Robert Fremont present at the same time. Development of the AR-17 12 Gauge Shotgun was started in the

mid-1950s. In 1959 ArmaLite developed the AR-7 .22 caliber survival rifle, which exploited some of the features of AR-5. The rifle entered production for the commercial market. Small numbers were sold to various military forces for use as survival rifles.

In 1959 ArmaLite began developing the AR-16, a sheet metal version of the AR-10. Three specimens were produced. The adoption of the M-14 by the Army and ArmaLite's focus on the AR-10 caused the AR-16 to be dropped.

The engineering team started to split up at the end of the decade. Fremont left for Colt in 1959. Sullivan left in 1960, and Stoner left in 1961 to serve as a consultant to Colt.

ArmaLite was late with the AR-10 and, in a way, early with the AR-15. With both models gone ArmaLite was in trouble. It's only rifle in production was the .22 caliber AR-7. It wasn't enough. The second phase of ArmaLite's history therefore began in early 1961.

ARMALITE INCORPORATED

In 1961 Fairchild was undergoing financial troubles, and the original principals of ArmaLite acquired ArmaLite from Fairchild, including rights and title to all ArmaLite designs except the AR-10 and AR-15, which had previously been licensed to Colt's.

The organization continued from this time on as ArmaLite, Inc., with substantially the same nucleus of key personnel. From the latter part of 1962 until near the end of 1971 the major portion of the ArmaLite development programs were funded by Capital Southwest Corporation of Dallas, Texas. In November of 1971 Charles Dorchester, Chairman, and Richard Klotzly, President, acquired the majority common stock position in ArmaLite held by Capital Southwest Corporation.

It was obvious from Army purchases of the AR-15 that Fairchild had erred in selling the AR-15 in 1959. To recover from that error, ArmaLite set about to develop a new rifle that wouldn't violate the Stoner gas system patents, which now belonged to Colt's. The result was the AR-18, which began development in 1963. The combat effectiveness of the .223 caliber cartridge was now well proven. ArmaLite hoped to build a new rifle capable of displacing the AR-15 in the hands of the Army. The AR-18 combined the lessons of the AR-15 and the AR-16 in a rifle capable of competing for the many expected contracts for new rifles.

The AR-18 is best described as a sheet metal AR-15, with a different gas system. It was to prove the main focus of ArmaLite's efforts for the next two decades.

ArmaLite arranged exhaustive tests by the H.P. White laboratory of Belair, Maryland, to verify their claims for the AR-18 with the hope of attaining DOD and State Department endorsement of the rifle toward filling the void existing for a modern combat rifle for friends and allies around the world.

The Army conducted tests of ten prototype rifles at Aberdeen Proving Grounds, Maryland, and at Ft. Benning, Georgia, during 1964. The rifle was considered as “having military potential.” The Army requested an additional 29 rifles in 1964 for further testing. These 29 rifles, with a detailed operator’s manual, were produced on a tool room basis in a four-month period in compliance with the government contract. The tests were conducted as part of the Army’s Small Arms Weapons System (SAWS) tests. Not surprisingly, the early rifles needed further development.

With the military market going nowhere fast, sales were shifted to the commercial market. A commercial, semiautomatic-only version of the AR-18 was produced as the AR-180.

In 1967 production of the AR-18 was started at the Howa Machinery Company of Nagoya, Japan. For Japanese political reasons the Howa rifles were allowed to be sold only to non-combatant nations, and even then only to non-Asian nations. During the Vietnam War, the AR-18 could not even be exported to the United States.

As a result of continued ArmaLite effort, the Army was directed to re-evaluate the AR-18 during at the end of 1969. It was too late. By the end of 1969 the Army had already standardized the M-16, and the AR-18 was unable to displace it. Further efforts focused on overseas and commercial domestic sales.

The AR-18 suffered similar results in the United Kingdom as well. The Ministry of Defense first evaluated the AR-18 in March 1966. It was found to be attractive in terms of its light weight and ease of manufacture. It suffered, in the eyes of the British, from lack of gas adjustment and the lack of a buffer system. Automatic accuracy was considered somewhat inferior, and it was considered unsatisfactory in mud and “drag sand” conditions. The rifle was modified with reinforcement of the hinge area of the lower receiver, addition of an ejection port cover and an improved muzzle brake/flash suppressor and re-tested in August of 1966. The strengthening was appreciated, but the sand and mud test results were largely unchanged, and the lack of a buffer continued to be criticized.

A Howa version was evaluated by MOD in January 1969. While it again failed the mud test, most criticism concerned minor physical characteristics that could be readily resolved.

In fairness to the AR-18, the MOD evaluations are somewhat suspect. The Royal Small Arms Factory could hardly be considered objective evaluators. The relationship between Sterling and RSAF was rocky at best, with RSAF benefiting from government preference and a willingness to appropriate the work of others. It’s especially interesting to note that the RSAF’s later 5.56mm rifle, the SA-80, (later adopted as the L85) was nothing more than a bullpup version of the AR-180. That rifle is now regarded as probably the worst of the recent military rifles. Lessons learned during evaluations of the AR-180 were ignored

in the development of the L85, and ArmaLite's knowledge of the mechanism wasn't available.

Nonetheless, it was apparent that the AR-18 had not benefited from the intense field use, criticism, and rework that had been lavished on the AR-15. Major elements of its design have reappeared in several other rifles, but the AR-18 itself remains an unfinished work. The Irish Republican Army illegally acquired a number of Howa AR-180s in the early 1970s, and in 1973 the Japanese government halted all exports of AR-18 and AR-180 rifles. Howa produced 3,927 AR-180s between October 1970 and February 1974.

In mid-1968 ArmaLite set up pilot production in its Costa Mesa plant. ArmaLite produced 1,171 AR-18s and 4,018 AR-180s at its Costa Mesa plant between July 1969 and June 1972. The Japanese government subsequently eased its restrictions and allowed the commercial, semi-automatic AR-180 to be exported to the U.S., and by the late 1970s U.S. production halted.

In order to concentrate full effort on the military sales program, ArmaLite elected to discontinue its other commercial firearm activities. In mid-1973 ArmaLite sold the AR-7 rifle to Charter Arms.

The Japanese restrictions on export of the AR-18 and AR 180 forced ArmaLite to move the production machinery to a new licensed producer. In 1974 Sterling Armament Company of Dagenham, England, was licensed to produce ArmaLite's rifles. It took 15 months to complete setup and begin production. ArmaLite imported the Sterling rifles into the U.S., and Sterling and ArmaLite both tried to market the rifles around the world. Sterling manufactured 12,362 AR-180s between the 1975 and 1983, when ArmaLite and Sterling were both sold. 10,946 AR-180s were exported to the United States.

The AR-18 was highly regarded, but didn't find the favor that it could have. Even as ArmaLite marketed the new small caliber rifle, FN and HK were selling more traditional 7.62mm rifles around the world. Colt was selling AR-15s. The AR-18 remained somewhat prone to breakage, and never enjoyed the success ArmaLite expected.

The AR-18, however, has proven to be another seminal weapon from ArmaLite. A number of later rifles, including the problem-plagued L85 (UK), the more reputable SA-80 (Singapore) and the new G-35 (Germany) were derived from the AR-18.

With the floundering of the AR-18, ArmaLite's owners elected to sell the company. In 1983 ArmaLite was sold to Elisco Tool Manufacturing Company, of the Philippines. ArmaLite Division of Elisco Tool.

ARMALITE DIVISION OF ELISCO TOOL

The short-lived third phase of ArmaLite's history began with Elisco Tool Manufacturing's 1983 purchase of ArmaLite. The new ArmaLite operation was headed by an Englishman hired to serve as interim President, Mr. Bruce Swain. Mr. John Ugarte later replaced Swain. ArmaLite continued to market existing rifles and parts manufactured by Sterling under the leadership of the new vice-president of Marketing, Mr. Joe Armstrong. Elisco Tool had successfully produced the M16A1 for the Philippine armed forces and police. Difficulties with Colt over M16 licensing prompted Elisco to seek another 5.56mm rifle, and the AR-18 was the only real contender.

Inventory, tooling, and machinery were therefore dispatched from Sterling's plant to the Philippines. The process fell apart not in the U.S. market, but due to political events in the Philippines themselves. In short, Ferdinand Marcos was overturned and went into exile. The political and economic links of the government were dramatically shifted, and Elisco was unable to carry out the AR-18 production. The U.S. arm of the operation was closed in 1987.



ARMALITE INCORPORATED II

Independent of ArmaLite, Karl Lewis and Jim Glazier formed a company named Eagle Arms in Coal Valley Illinois in 1986.

Lewis had manufactured a wide variety of both commercial and military parts for M-16 rifles, and Eagle Arms assumed the increasingly distracting retail business from Lewis' company, Lewis Machine and Tool (LMT). Eagle Arms initially marketed M16 and AR-15 type rifle parts. The early Stoner patents had expired, and Eagle was able to build both parts and complete rifles. In 1989 Eagle commenced production of complete rifles, with LMT serving as the major supplier.

In January 1994, Mr. Mark Westrom purchased the company. Westrom was a former Army Ordnance Officer and a civilian employee of the Weapons Systems Management Directorate of the Army's Armament Materiel and Chemical Command (AMCCOM) at nearby Rock Island Arsenal. After the purchase, he continued producing Eagle Arms EA-15 rifles. Plans were made to add a line of telescopic sights to the product line. Westrom's background in military Service Rifle competition produced a focus on high grade target rifles even before the AR-15/M-16 rifles came to dominate American Service Rifle competition in the mid-90s. In November 1994 Westrom decided to initiate the design of a .308 caliber AR-10 type rifle, to be called the "M-10" in line with Eagle's production of .223 caliber "M-15" rifles. Work on the project began in November 1994. The bulk of the engineering work was contracted out to LMT, with an experienced Quality Assurance expert, Mr. David Dorbeck, doing the bulk of the work.

By coincidence, the president of the company manufacturing telescopic sights for Eagle, Dr. John Williams, had worked for ArmaLite in his youth. He introduced Westrom to the former Production Manager for ArmaLite, Mr. John McGerty. McGerty led Westrom to John Ugarte, the most recent President of ArmaLite.

Ugarte had retained rights to the ArmaLite trademark. In early 1995, Westrom purchased those rights, and production of ArmaLite rifles resumed in Illinois. The corporation was reorganized as ArmaLite, with Eagle Arms converted to a division of ArmaLite. First shipments of new ArmaLite rifles began in 1995.

With the reorganization as ArmaLite, the M-10 rifle was renamed. ArmaLite/Fairchild had already used the AR-10 designation with its 1950s era .308, and had developed the AR-10A as an improvement on it. The planned M-10 rifle series was designated the AR-10B series, and deliveries commenced in January 1996.

The AR-10B rifle was developed using unusual reliance on computer design and simulation. In fact, the rifle was never prototyped. Individual sub-components were tested on a special lower receiver made of two slabs of aluminum fitted to an SR-25 upper receiver assembly. The full prototype AR-10B was the first rifle off the production line.

This approach was risky, but required by the limitations on cash at that time. It proved stunningly successful. Results from the prototype and the first production rifles disclosed that the only error was in not installing a firing pin retarding spring. The spring was planned early in the development, but left out of the final design because there seemed to be no need for it. Subsequent problems with the surplus ammunition used by some customers required manufacture of the spring. Fortunately, space for the spring was built into the bolt carrier, and it was quickly dispatched to the field and the production line.

In late 1997, ArmaLite began development of a new rifle, the AR-50 .50 caliber rifle. Chambered for the Browning M2 Machine Gun cartridge, this innovative single-shot rifle was designed strictly for the commercial market. It was introduced to the industry at the 1999 SHOT Show, and is in production at the time of this writing. The AR-50 is an innovative single shot rifle conceived by Mark Westrom and the design team of George and Paul Reynolds at Knox Engineering Company of Altona, Illinois.

The success of the AR-50 prompted ArmaLite to consider the viability of a smaller version. George and Paul Reynolds were again enlisted to scale down the AR-50. They did so brilliantly, and the AR-30 is now offered in 7.62, 300 Win Mag, and 338 Lapua.

George Reynolds also brought two new projects of his own to ArmaLite in 1997: a Blank Firing System and Sub-Caliber Device for the Mk 19 Mod 4 Grenade Machine Gun. These projects have been designated the AR-22 and AR-23.

ArmaLite continues to produce firearms and design new ones. It has shipped far more .223 caliber rifles than ArmaLite did during its first through third phases. It has shipped

more AR-10s than ArmaLite/Fairchild and Artillerie Inrichtingen combined. There are more active development projects in process today than any time since 1961.

Throughout the past 56 years, ArmaLite's durability has been based on one core theme: the innovation present in its firearms. That theme continues to serve both as the basis of ArmaLite's corporate strategy, and as a challenging image to maintain.

ARMALITE'S FIREARMS

The following firearms were developed and/or produced by ArmaLite. Other AR family firearms were designed by Eugene Stoner but not developed by ArmaLite, and aren't listed.

AR-1 (1954 and before)



"Parasnipер" rifle, using either military or sporting calibers, including 7.62 NATO. The Parasnipер is a very high quality, lightweight bolt action rifle designed as a fine sporting rifle or for special military sniping operations.

The AR-1 began life at ArmaLite's first location in Hollywood, California. It broke new ground by using foam filled fiberglass stock (in brown) and an anodized aluminum barrel with a thin steel liner. A variety of receivers were to be used, with a Remington action common. The rifle with scope weighs a modest 6 pounds. Very few AR-1s were made.



AR-5 (1954 - 55)



A bolt action, four shot magazine, .22 Hornet survival rifle adopted by the Air Force in 1956. It weighed a mere 2 $\frac{3}{4}$ pounds.

Its distinguishing characteristic was the ability to detach the barrel from the action, and the action from the stock, and place both within the stock. With the buttcap replaced, the

rifle would float. The government specification for the MA- 1 called for a second, .22 long rifle barrel to be attached outside the stock.

After adopting the AR-5 as the MA-1, the Air Force failed to follow through with a purchase. The main effect of the AR-5 was to whet ArmaLite's appetite for government business. It led to development of the AR-7.

AR-7 (1959 - 60).



The AR-7 Explorer was the first commercial item to be put into production by the ArmaLite Division of Fairchild.

This rifle is the civilian version of the Air Force adopted AR-5 Survival Rifle. The AR-7 fires the popular .22 long rifle rimfire cartridge. The rifle disassembles without the use of tools and stows inside its plastic butt stock. The AR-7 weighs as little as 2 ¾ pounds and will float in water, either assembled or in the stowed configuration. The action is semi-automatic and is fed from an eight-round magazine. It has been in intermittent production since.

AR-10 (1955 - 56)



Basic infantry rifle, caliber 7.62mm NATO. The AR-10 was conceived by Eugene Stoner, and was tested by US Ordnance at Springfield Armory as early as 1956. It was licensed to Artillerie Inrichtingen in Holland in 1957, and with the AR-15 was licensed to Colt's Patent Firearms Company in 1959. The AR-10 combined a number of previous features with a new gas system patented by Stoner. In the Stoner system, gas ported off the barrel travels down a tube back into the upper receiver, and into the bolt carrier. It enters an expansion chamber, where it expands and drives the carrier to the rear. The rearward movement of the carrier transferred by a cam pin riding in a curved path and engaging the bolt, forces the bolt to rotate to unlock. (Common reports that the Stoner system is copied from the Swedish Ljungman system are incorrect: the Ljungman System has a tube carrying gas ported off the barrel, but the tube simply directs the gas into a cavity in the top of the carrier to blow the carrier to the rear.)

The AR-10 was later improved with lessons learned from the early AR-15s. The new model was designated the AR-10A. It was produced in prototype form only.

The AR-10 was intended to compete with Springfield's M-14 rifle and FN's FAL. It was, unfortunately, a bit too late. Although it showed great promise during tests, it required a bit of further development. It was too late.

The major effect of the AR-10 was to lead to Army interest in a similar rifle of smaller caliber. That rifle became the AR-15.

AR-10B (1994 - 96)



An update of the AR-10 placed in production in 1996. The AR-10 was fielded in very small numbers: less than 6,000. Despite the small numbers, the fame of the rifle grew to cult status. It was, after all, the more powerful and rare precursor to the AR-15. Civilian shooters took great pains to recover used AR-10s from the surplus market and convert them to civilian rifles by means of new, semi-automatic only receivers.

The popularity of the AR-10 rifle led Knight's Manufacturing and, later, ArmaLite to return it to production. Knight entered the market first with an AR-10 derivative called the SR-25.

The SR-25 combined features of the AR-10 with as many parts of the AR-15 as could be used. The ArmaLite AR-10B was then patterned on the SR-25 rifle. To improve function, the ArmaLite AR-10B employs far fewer parts from the M-15/M-16 rifles than the SR-25, and uses a modified version of the proven M-14 rifle magazine.

By 2000, ArmaLite AR-10B production surpassed Dutch and ArmaLite/Fairchild AR-10 and AR-10A production.

Within the last few years, ArmaLite has drastically expanded the AR-10 product line with both new-featured rifles and carbines, to include the AR-10SuperSASS™ introduced at Shot Show in 2006. This product's development stemmed from a 2004 US Military requirement for a Semi Automatic Sniper System (SASS) and includes an adjustable gas system to accommodate suppressed and unsuppressed fire.

AR-15 (1956 - 59)

Basic infantry rifle using ArmaLite developed .223 caliber ammunition. The AR-15 was licensed to the Colt's Patent Firearms Manufacturing Company in January 1959.

The U.S. Air Force completed tests of the AR-15 in January 1961. The Air Force procured 8,500 rifles in 1961 and standardized the AR-15 in 1963. 85,000 rifles were purchased in that year. The military designation of the AR-15 is M-16. The Army also ordered 85,000 rifles in 1963. An additional 35,000 were ordered in 1964, 100,000 in 1965, and 100,000 in 1966. These rifles were initially issued primarily to combat troops in the Dominican Republic and to Special Forces, Airborne, helicopter crews, Air Commando and other special category troops in Vietnam. The M-16 was type classified standard A in 1965 and became the military's basic service rifle.

AR-16 (1959 - 60)

The folding stock equipped AR-16 is a basic infantry rifle of 7.62mm NATO caliber and capable of launching rifle grenades "without modifications or attachments" to the rifle. The primary reason for the development of the AR-16 was to produce a weapon with the performance capabilities of the AR-10/AR-15 series, but at a greatly reduced production cost. Another consideration was to make a rifle less difficult to produce in countries without advanced technological resources. Although the AR-16 didn't enter production, elements of its design influenced the 1995 design of the AR-10B.

AR-17 (1956 - 62)

The AR-17 is an innovative semi-automatic shotgun featuring a hard-anodized aluminum receiver and barrel and a brown wood grain plastic stock. The barrel was equipped with replaceable chokes. The AR-17 was called the "Golden Gun" due to the color of the aluminum components.

Two thousand sets of parts for the AR-17 were produced, but only 1,200 guns were sold.



The AR-17 never met commercial success; it was semi-automatic, but held only two shots. It was lightweight, but was marketed to trap and skeet shooters, who normally fire many shots per day.

AR-18 (1963 - 65)



Just as the AR-16 is basically a sheet metal version of the AR-10, the AR-18 is a sheet metal version of the AR-15.

The AR-18 was an effort to correct the 1959 mistake of selling the AR-15 to Colt's. As the AR-15 became successful, ArmaLite needed a rifle that could compete in the same market. The AR-18 is a .223 caliber, gas operated, 6.9 pound rifle equipped with a folding stock. It is capable of both full and semi-automatic fire. The AR-18 uses steel stampings instead of alloy forgings, this simplifying manufacture and greatly reducing production costs. The main functional differences include the use of a Tokarev style sliding gas cylinder under the handguards that avoided violating the Stoner gas system patent that was sold to Colt's Patent Firearms Manufacturing Company. The new system had the advantage of keeping powder residue out of the action. The second difference was the use of dual operating springs on rods in the upper receiver, which allowed the stock to fold to the side.

AR-20 (1998 - 1999)

The AR-20 was the initial designation of ArmaLite's .50 caliber rifle (see AR-50 below). The designation was changed to the AR-50 to emphasize the caliber of the rifle.

AR-22 (1998 - Present)

The AR-22 is a Blank Firing Device for the Mk 19 Mod 4 40mm Grenade Machine-gun, and is designed for training or testing the Mk 19. It employs the standard 7.62mm NATO Blank.

The AR-22 was conceived by CW4 John Miller, and designed by George Reynolds, President of Knox Engineering Company of Altona, Illinois. Reynolds brought it to ArmaLite when he began work on the ArmaLite AR-50 rifle.

AR-23 (1998 - Present)

The AR-23 is a Sub-Caliber Training Device for the Mk 19 Mod 4 Grenade Machine-gun. It will employ a special tracer cartridge designed to follow the same ballistic arc of the 40mm grenade. The AR-23 was conceived by CW4 John Miller, and designed by George Reynolds. Like the AR-22, Reynolds brought it to ArmaLite when he began work on the ArmaLite AR-50 rifle (see below).

AR-24 (2006 - Present)



Over the years, ArmaLite had developed and produced a wide variety of firearms. However, the ArmaLite brand had never been applied to a pistol. In 2005, Mr. Westrom met with representatives of Sarsilmaz, one of the premier firearms manufacturing companies in Turkey. Starting with their basic CZ 75 pistol, Mr. Westrom made changes that he felt would appeal to the American consumer. The result, in 2006, was a set of four 9mm pistols that bear the ArmaLite name.

AR-30 (1999 - Present)



The AR-30 is a unique rifle sharing many of the technical features of the ArmaLite AR-50 .50 caliber rifle. The rifles are based on an aluminum stock that merges a machine rest with a rifle stock for stunning stability. It is intended for high-accuracy use such as varmint hunting, advanced target shooting, and law enforcement. The machine rest elements consist of an octagonal receiver, a matching V-shaped channel in the stock, and a recoil wedge. Conventional action screws draw the action down into the stock, and the recoil wedge forces the recoil lug into intimate contact with the stock. No hand fitting or bedding compounds are required, and the action can be removed and re-installed without

significant loss of zero. It is immune to changes in temperature or humidity. The receivers are equipped with special mounting slots in addition to conventional threaded holes. The slots mate with ArmaLite's special sight bases in a way that removes all recoil loads from the scope mount screws. The AR-30 will be available with optional integral bases. The AR-30 is built to handle calibers up to .338 Lapua.

AR-50 (1998 - Present)



ArmaLite's normal pattern of sequential designation of models was altered for the AR-50. The model reflects the rifle's caliber. It is chambered for the .50 caliber Browning Machine Gun cartridge, and is capable of being built to accept the more powerful Russian 12.7mm cartridge. It features a unique stock made largely of aluminum. The forend, in particular, is interesting. It is extruded with a V cross section that mates with an octagonal receiver. This allows precise, repeatable bedding with no hand labor. The buttstock includes a vertically adjustable butt pad and adjustable cheek rest. The initial AR-50 departs from ArmaLite's normal trend towards lightweight rifles: it weighs 41 pounds. It is intended for the commercial market, where the weight adds comfort when firing the powerful cartridge. Shorter and lighter versions are in development.

AR-180 (1963 - 65) The AR-180 was the semiautomatic-only version of the AR-18.

AR-180B (2001 - Present)



The lower on ArmaLite's new AR-180B is made of a high strength polymer, and features the trigger group and magazine well of the AR15, so it uses standard AR15 type magazines and repair parts are readily available. The upper is formed sheet metal like the 1st Gen AR-180 and features the AR-180™ gas system to keep operating gasses outside the receiver. The 19.8" chrome moly barrel features an integral muzzle brake and ArmaLite's exclusive adjustable front sight base. The AR-180B is a .223 caliber, gas operated, 6 pound rifle equipped with a fixed stock and is semi-automatic.

The new AR-180B's upper and lower receiver groups are interchangeable with those of the 1st Gen AR-180, so earlier models may now be repaired by replacing the upper or lower half.

M-15 (1994 - Present)

In order to avoid a conflict with Colt's trademark of "AR-15", ArmaLite has designated our version the "M-15".

OTHER PROJECTS

ArmaLite has a number of models in development or under consideration. They will be announced as soon as practical. The following is a list of our current patents and trademarks.

PATENTS & TRADEMARKS

"ArmaLite®", "AR-10®", and "SPR®", are registered trademarks of ArmaLite, Inc.

"M-15™", "AR-30™", "AR-50™", and other model variants are trademarks of ArmaLite, Inc.

The AR-10® Series Rifles and Carbines (including the SuperSASS™) are protected by U.S. Patents 5,638, 626 and 5,911,173 and 6,044,748.

The M-15™ Series Rifles and Carbines are protected by U.S. Patents 5,911, 173 and 6,044,748.

The AR-30™ and AR-50™ Series Rifles are protected by U.S. Patents 6,487,805 and 6,637,142.

The AR-23 Subcaliber Device for the Mk-19 Grenade Machine Gun is protected by U.S. Patents 5,983,772 and 6,202,533.

The Blank Firing Adapter for the Mk-19 Grenade Machine Gun is protected by U.S. Patent 5,438,907.

Other patents granted or assigned to ArmaLite include:

- Weapons Operating System, U.S. Patent 6,591,535
- Cartridge for a Firearm, U.S. Patents 6,367,389 and 6,959,647 and 6,976,431 and 7,458,332
- Light Weight Weapon Operating System and Cartridge Feed, U.S. Patent 6,591,535