

# AR-18

5.56 mm  
COMBAT RIFLE



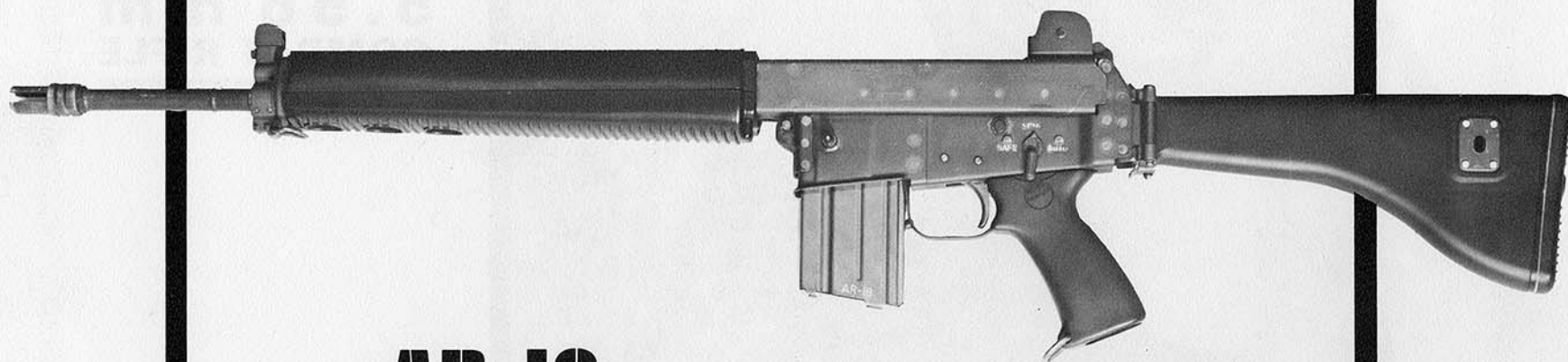
**ARMALITE, Inc.**

118 EAST 16th STREET, COSTA MESA, CALIFORNIA 92627  
TELEPHONE: (714) 548-7701

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**SAW**





**AR-18**  
**LIGHT INFANTRY**  
**WEAPON**



# AR-18

## SPECIFICATIONS

Caliber .....	5.56 mm	.223 cal.
Magazine 20 Round, Loaded .....	0.312 kg.	11 oz.
Barrel Length .....	476 mm	18 $\frac{1}{4}$ inches
Sighting Radius .....	511 mm	20 $\frac{7}{8}$ inches
Overall Length of Rifle .....	965 mm	38 inches
Length with Butt Stock Folded .....	730 mm	28 $\frac{3}{4}$ inches
Rate of Fire .....	Approximately 750 rounds per minute	
Weight (Empty) .....	3.04 kg.	6.7 pounds
Weight (With Telescopic Sight) .....	3.50 kg.	7.7 pounds
Sights.....	Rear: Peep-Adjustable for Windage Front: Post-Adjustable for Elevation	
Action.....	Gas operated with Piston and Cylinder and Operating Rod Mounted above Barrel.	
Muzzle Velocity .....	990 meters	3250 ft. per Second
Maximum Range .....	3045 meters	3333 Yards



SIMPLICITY OF DESIGN OF THE AR-18 COMBAT RIFLE PROVIDES  
EASE OF PRODUCTION, RELIABILITY, REDUCES MAINTENANCE  
AND SHORTENS TRAINING TIME.





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# **AR-18 THE ARMALITE COMBAT RIFLE CALIBER 5.56mm**

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## **INTRODUCTION.**

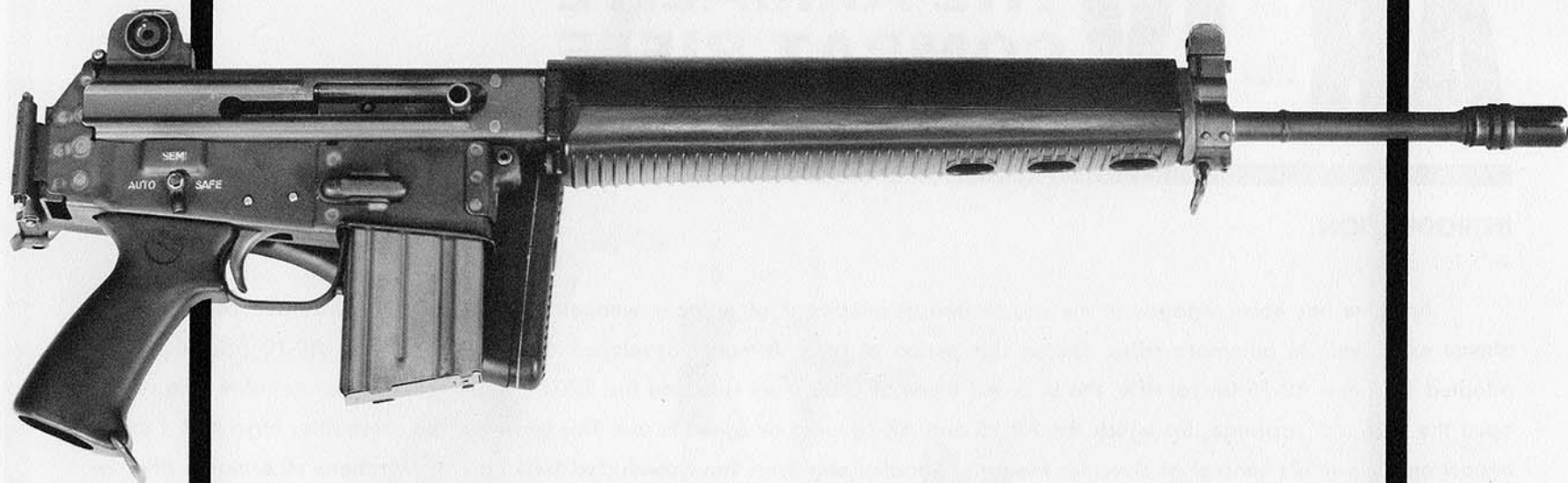
Armalite has been engaged in the design and development of military weapons since 1954. Research has been devoted almost exclusively to automatic rifles. During this period of time, Armalite developed the NATO 7.62 mm AR-10 rifle, the U. S. adopted 5.56 mm AR-15 (M-16) rifle, the U. S. Air Force AR-5 Survival rifle and the NATO caliber AR-16 rifle. Armalite also developed the 5.56 mm cartridge, for which the AR-15 and AR-18 were designed to use. This cartridge and these rifles have had a major impact on the world's concept of shoulder firearms. Armalite engineers have conducted tests or demonstrations of Armalite rifle developments in almost every country in the Free World. The knowledge gained in this world-wide firearms activity has led to the production of the AR-18, a combat rifle that is unquestionably the most advanced in the world today.

The primary design consideration in the AR-18 was to attain the absolute maximum of performance, particularly in adverse combat conditions. The second consideration was to achieve the utmost in simplicity so as to reduce training of combat and maintenance personnel to an absolute minimum. The third design consideration was to reduce cost. The AR-18 can be produced at a substantially lower cost than any other rifle in its class. Tooling for mass production can be fabricated for less than half the cost, of that required for other modern automatic combat rifles.

Of extreme importance in an evaluation of the potential of the AR-18 is the fact that almost every country with a large combat rifle requirement will manufacture in their own country the rifle they adopt. The AR-18 combines the extensive use of sheet metal pressings (stampings) and automatic screw machine parts with a design permitting a minimum of close tolerances. These design characteristics make the AR-18, without question, the combat rifle most ideally suited for production in any country with limited factory facilities.

Another important economic consideration is that practically all of the machine tools required to produce the AR-18 rifle can be utilized for the manufacture of commercial products after military rifle requirements have been met.

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**AR-18**  
**(WITH BUTTSTOCK FOLDED)**



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The AR-18 offers an extremely compact weapon while still retaining performance characteristics that exceed military requirements. With the buttstock folded, the AR-18 rifle has an overall length of just 28 $\frac{3}{4}$  inches, ideally suited for paratroop, armored, commando, jungle, and guerrilla warfare tactics.

### **PERFORMANCE:**

By improving on the best design features of the AR-16 and AR-15, the AR-18 has been engineered to give outstanding performance under the most severe military trials as established by the test requirements of many nations.

### **PROVEN COMBAT EFFECTIVENESS:**

The superior accuracy in semi-automatic fire and the excellent controllability in full automatic fire makes the AR-18 outstanding in effectiveness against an enemy of numerical superior strength, especially in situations such as "human wave" type attacks.

#### **The 5.56 mm Cartridge:**

With muzzle velocity of 3250 ft. per second, the 55 gr. full-jacketed bullet has proven extremely effective over all combat ranges. Accuracy meets sniper rifle requirements; under 3 inches at 100 meters.

#### **Reliability:**

Malfunctions and parts breakage virtually eliminated; Exceeds endurance requirements by a wide margin. Barrel life is over 20,000 rounds with 50 % full automatic fire. A spring loaded firing pin assures against inadvertant fire caused by firing pin inertia. A manual charging handle provides positive bolt closure and cartridge ejection under adverse conditions.

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AR-18 fired from shoulder position, 20-round burst.



The AR-18 fired from the hip, 20-round burst, 1.5 seconds. Note: Full controllability. Handguard resting on the open hand.



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**Adverse Conditions:**

Exceptional performance in all standard adverse conditions tests including:

- Rain
- Dust
- Extreme Cold and Icing ( $-65^{\circ}$  F.)
- Mud
- High Humidity
- Sustained Fire

**Rough Handling:**

Passes rough handling and drop tests without functional impairment.

**VERSATILITY.**

The AR-18 makes provision to enable this one basic rifle to fulfill a wide variety of combat functions.

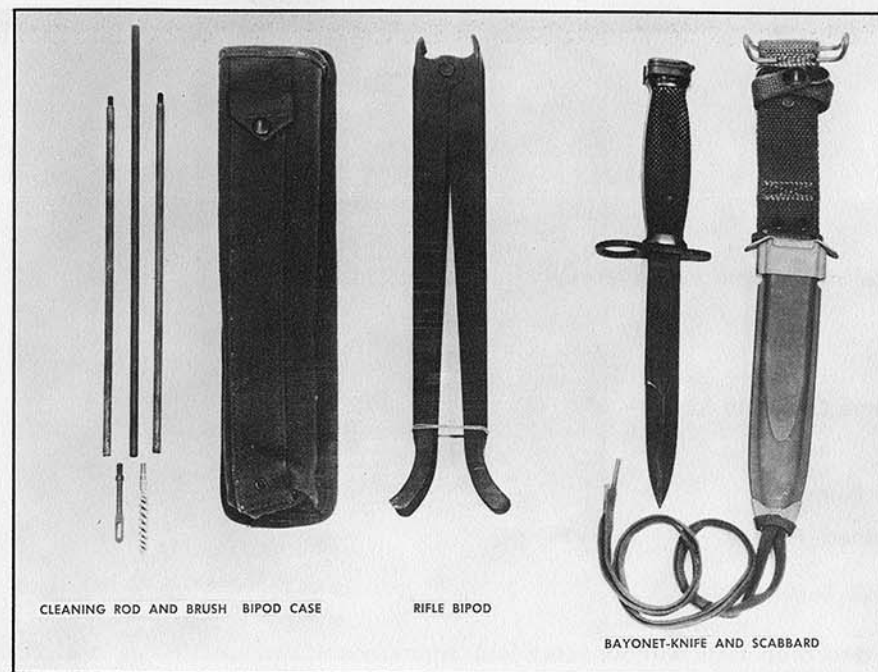
**Full Automatic Fire:**

The selector lever converts the rifle from semi-automatic to full automatic at a cycling rate of 750 rounds per minute. Design features provide full control during full automatic fire. One and one-half seconds puts twenty rounds on the target.

**Grenade Launching:**

Anti-tank or anti-personnel grenades can be launched in rapid succession from the standard rifle without accessories or modification. Instant change can be made from grenade launching to combat ammunition.

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## ACCESSORIES



SELECTOR LEVER IN SEMI-AUTOMATIC POSITION, LEFT SIDE

SELECTOR LEVER IN SEMI-AUTOMATIC POSITION, RIGHT SIDE





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**Bayonet:**

Provision has been made for attaching a bayonet. Point of impact of the bullet remains virtually the same with the bayonet attached to the rifle.

**Telescopic Sight:**

A 3 Power telescopic sight is available with an immediately detachable mount.

**FEATURES.****Last Round Stop:**

The bolt remains open when the last round is fired from a magazine.

**Magazine Latch:**

An expended magazine can be dropped by depressing the convenient latch with the trigger finger.

**Selective Fire Lever:**

The selective fire lever on the left side is operated by the shooter's thumb without removing the hand from the pistol grip. The three positions of the selective fire lever are: Safe, Semi-automatic and Automatic. An alternate selective fire lever is incorporated on the right side for use when the stock is folded.

**Sights:**

The rear sight is easily adjustable for windage. The aperture of the rear peep sight decreases when the range setting is increased. The front sight is quickly adjusted for elevation by use of a cartridge.

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THE AR-18 RIFLE  
CAN BE "FIELD" STRIPPED  
IN 25 SECONDS





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### **Simplicity of Operation:**

All functional operations have been kept as simple as possible in order to permit rapid training of personnel in the use and maintenance of the weapon. Complete field stripping of the weapon is accomplished in just a few seconds without the use of any tools other than a cartridge.

### **Training:**

Flat trajectory, mild report, light recoil and straight line stock assisting "pointability" contribute to greatly reduced time for familiarization and qualification of personnel.

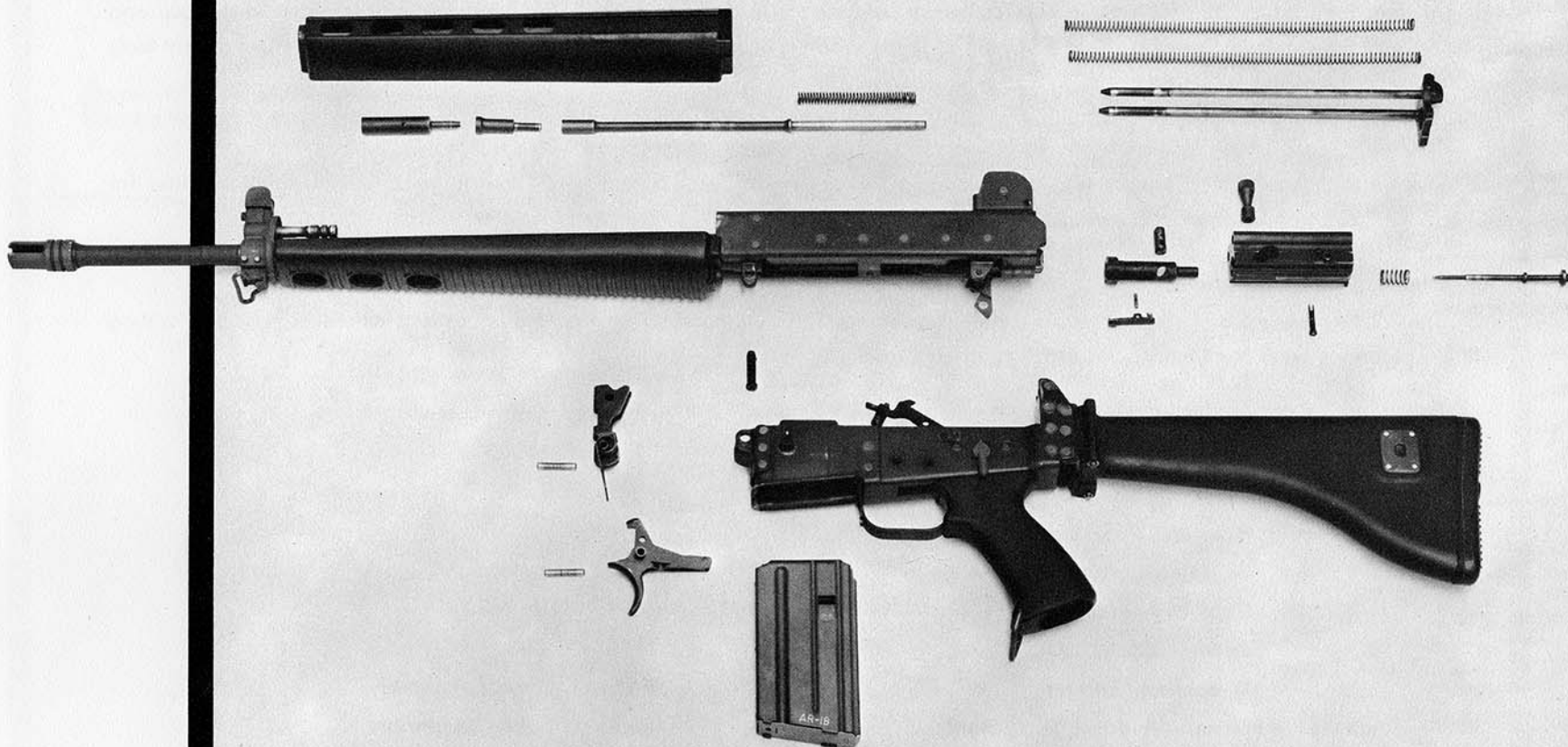
### **Economy of Manufacture:**

The AR-18 makes use of sheet steel pressings (stampings) and automatic screw machine operations wherever possible. Milling machine operations have been held to an absolute minimum.

Following are the production classifications of the AR-18 component parts:

### **STAMPINGS**

Aperture, Rear Sight	Hammer
Bolt Catch, Assembly	Hinge, Butt Stock
Cap, Handguard	Latch, Magazine
Detent, Safety	Lever, Safety
Disconnect, Trigger	Receiver, Lower, Assembly
Drum, Windage, Rear Sight	Receiver, Upper, Assembly
Automatic Sear, Assembly	Trigger



ONLY A CARTRIDGE AND THE FIRING PIN REQUIRED FOR DETAILED STRIP





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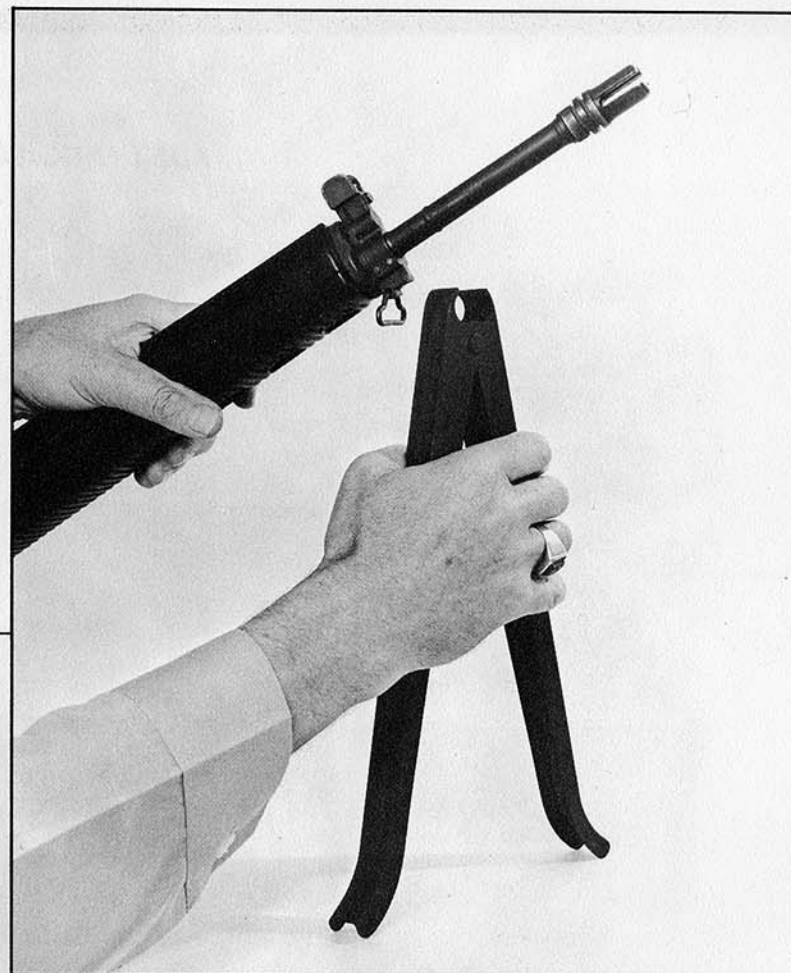
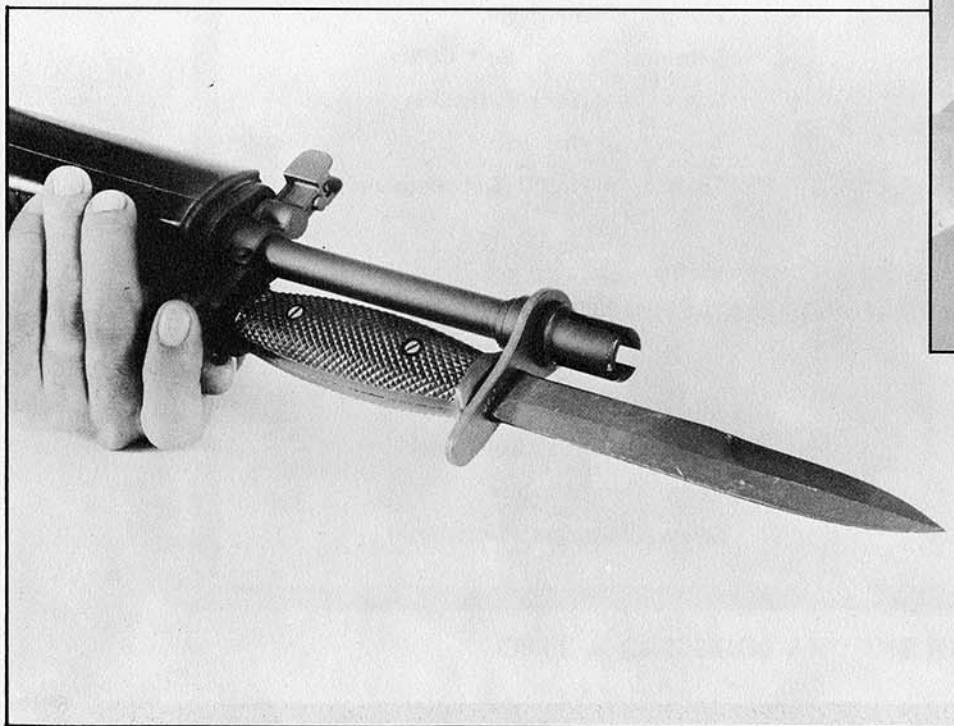
## **AUTOMATIC SCREW MACHINED PARTS**

Assembly Pin, Trigger	Pin, Bolt Catch
Bushing, Auto Sear	Pin, Extractor
Bushing, Bolt Catch	Pin, Hammer — Trigger
Bushing, Hammer	Pin, Press Fit, B/Carrier
Bushing, Trigger	Piston, Front Sight
Buffer	Pivot Pin, Auto Sear
Cylinder, Operating Rod	Pivot Pin, Sear Extension
Firing Pin	Plunger, Buffer
Guide Rod	Plunger, Bolt Catch
Handle, Charging	Plunger, Front Sight
Hinge Pin, Stock	Retainer, Spring, Bolt Catch
Housing, Plunger, Bolt Catch	Rivet, Auto Sear Extension
Link, Operating Rod	Takedown Pin, Bolt
Operating Rod	Takedown Pin, U & L Receiver

## **SCREW MACHINED, BLANKS (FURTHER MACHINING REQUIRED)**

Blade, Front Sight	Plunger, Guide Rod Plate
Bolt	Plunger, Hinge, Butt Stock
Ejector	Recoil Compensator
Pin, Cam	Screw, Windage, Rear Sight

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**LIGHT WEIGHT BI-POD**

**BAYONET INSTALLED**



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## MACHINED PARTS

Barrel	Extension, Barrel
Carrier, Bolt	Extractor

## MACHINED CASTINGS OR FORGINGS

Front Sight  
Safety  
Plate, Guide Rods

## MOLDINGS

Butt Stock	Hand Guard, Lower
Butt Plate	Pistol Grip
Hand Guard, Upper	Butt Pad

### Fabrication of Receiver:

The stamped parts composing the upper receiver assembly are assembled in a welding fixture. This assembly consists of the upper receiver, rear sight ramp, bolt carrier guide and barrel extension. With the parts placed in a suitable fixture they are welded by projection, resistance or heliarc.

From the foregoing, it can be readily seen that the AR-18 design represents a marked break-through in the reduction of every possible cost, both for production tooling and in the unit production cost of the finished weapon.

It is an acknowledged fact that two or three military rifles are now in existence, completely acceptable as modern combat weapons. However, it is common knowledge that these military rifles present extreme production problems in most countries. The AR-18 is the ONLY rifle development that can bridge the gap of production and economic difficulties and provide a means of arming the Free World with a modern combat rifle.

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**GRENADE LAUNCHING POSITION FOR  
 CONCEALMENT AND MAXIMUM RANGE.**  
**NOTE: RIFLE IS INVERTED. ONLY A  
 GRENADE CARTRIDGE IS REQUIRED.**  
**NO ACCESSORIES NEEDED.**

**GRENADE LAUNCH AT MOMENT OF FIRING.**



**GRENADE LAUNCHING POSITION FOR HORIZONTAL FIRE**



# **GRENADE TYPES AVAILABLE:**

	Range
75 mm HE/AT	200 M
62 mm 2.5" ANTI-TANK	260 M
55 mm 2.2" Anti-Personnel	300 M

**FLASH HIDER.** SERVES AS A GRENADE LAUNCHER  
AND FULLY COUNTERS MUZZLE  
CLIMB DURING AUTOMATIC FIRE.



**75 mm PRACTICE GRENADE AND GRENADE LAUNCHING CARTRIDGES.**



**THREE POWER TELESCOPE. A GREAT ADVANTAGE DURING TIMES OF POOR LIGHT. PROVIDES SNIPER CAPABILITY CAPITALIZING ON INHERENT ACCURACY OF THE 5.56 mm CARTRIDGE. QUICK ADJUSTMENT, ONE HUNDRED TO FIVE HUNDRED METERS.**



**THE QUICK DETACHABLE MOUNT. SIMPLE AND STURDY, IMMEDIATE INSTALLMENT AND REMOVAL. POSITIVE RETURN TO ZERO.**





**AR-18, STOCK FOLDED IN  
JUMP POSITION**

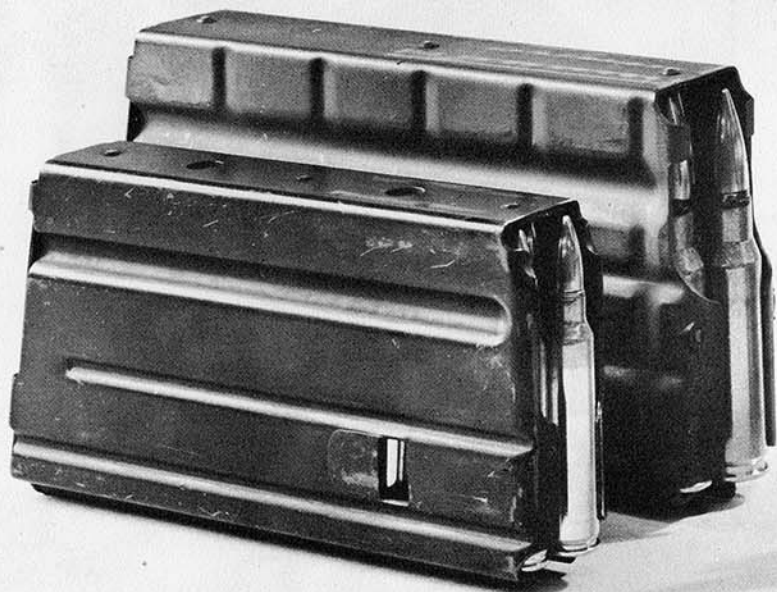


**AR-18, STOCK EXTENDED IN  
JUMP POSITION**



COMPARATIVE SIZE OF THE  
AR-18 5.56 mm  
AND M-14 7.62 NATO





**LOADED MAGAZINES**  
5.56 mm, 11 oz. 7.62 NATO, 24 oz.



**TEN ROUNDS OF 7.62 NATO AMMUNITION  
EQUALS 21 ROUNDS OF 5.56 mm**



**THE "STRAIGHT LINE" DESIGN AND LOW LINE  
OF SIGHT CONTRIBUTE GREATLY TO NATURAL  
POINTING, PARTICULARLY IMPORTANT DUR-  
ING AUTOMATIC FIRE.**



HELMET  
PENETRATION  
AT  
500 YARDS

ENTRY EXIT



COMPARATIVE EFFECT OF 7.62 NATO AND 5.56 mm ON AMMUNITION CANS AT 30 METERS. THE 7.62 NATO PASSES THROUGH WITH LITTLE DAMAGE OTHER THAN TWO CLEAN HOLES. THE 5.56 mm VIRTUALLY DISINTEGRATES THE CAN, EXPENDING PRACTICALLY ALL ENERGY WITHIN THE CAN WITH EXTREMELY DESTRUCTIVE RESULTS.

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## THE 5.56 mm CARTRIDGE

The 5.56 mm (.223) cartridge was developed by Armalite in 1957. This extremely accurate and lethal cartridge has had a major impact on military shoulder weapons world-wide. Battle proven since 1960 with the expenditure of millions of rounds, the suitability of this cartridge is now well established and has been accepted by virtually all military authorities.

Lethality is attained from the high velocity. Impact results in a hydro-static effect and corresponding extensive rupture of flesh in the immediate bullet path and displacement of fluids which are driven into body tissue over a wide area. This causes major shock and a high percentage of fatalities when compared with any present 7.62 mm (.30 Cal.) service load.

The 5.56 mm cartridge at ranges normally encountered under combat, will expend its entire energy within its target while the 7.62 mm is prone to pass through without important distortion, expending its predominate remaining energy on non-effective impact areas.

The 5.56 mm cartridge is one of the most inherently accurate cartridges developed to date (as verified by official U. S. Air Force records covering extensive tests).

Due to the small powder load, barrel life has been greatly extended; in excess of 20,000 rounds, 50% full automatic fire.

Effective range far exceeds normal battlefield requirements. The 5.56 mm will penetrate both sides of an issue U. S. helmet at 500 yards. After penetrating 24" of wet clay, velocity remains highly lethal.

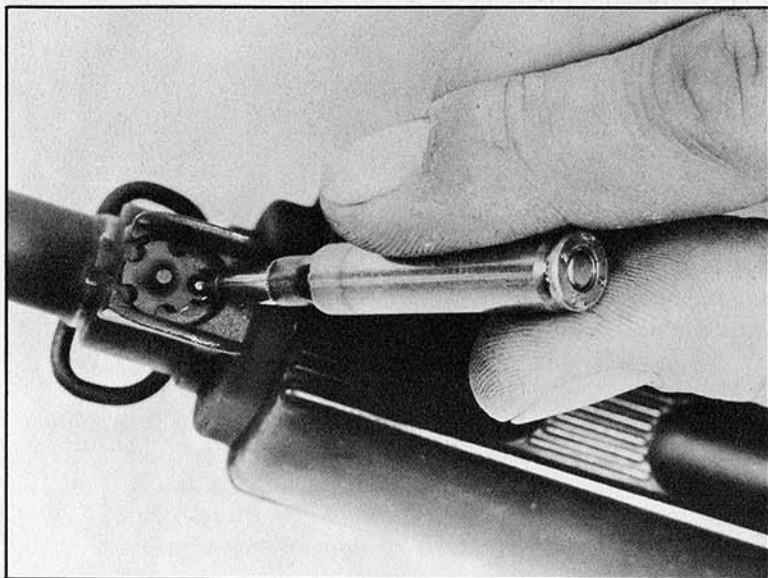
This extreme effectiveness has been attained with strict adherence to the Geneva Conference for military bullets.

This cartridge, within normal combat ranges (300 meters), is a far more effective round than the 7.62 NATO when **all factors** are considered, to include weight, ease of training, lethality, controllability under full automatic fire, and pinpoint semi-automatic accuracy. The 5.56 mm is now the standard rifle caliber of the U. S. Air Force, replacing all other rifles and sub-machine guns. The U. S. Army has armed its Airborne and Special Forces Troops with this cartridge and is in the process of expanding its use by the regular Infantry.

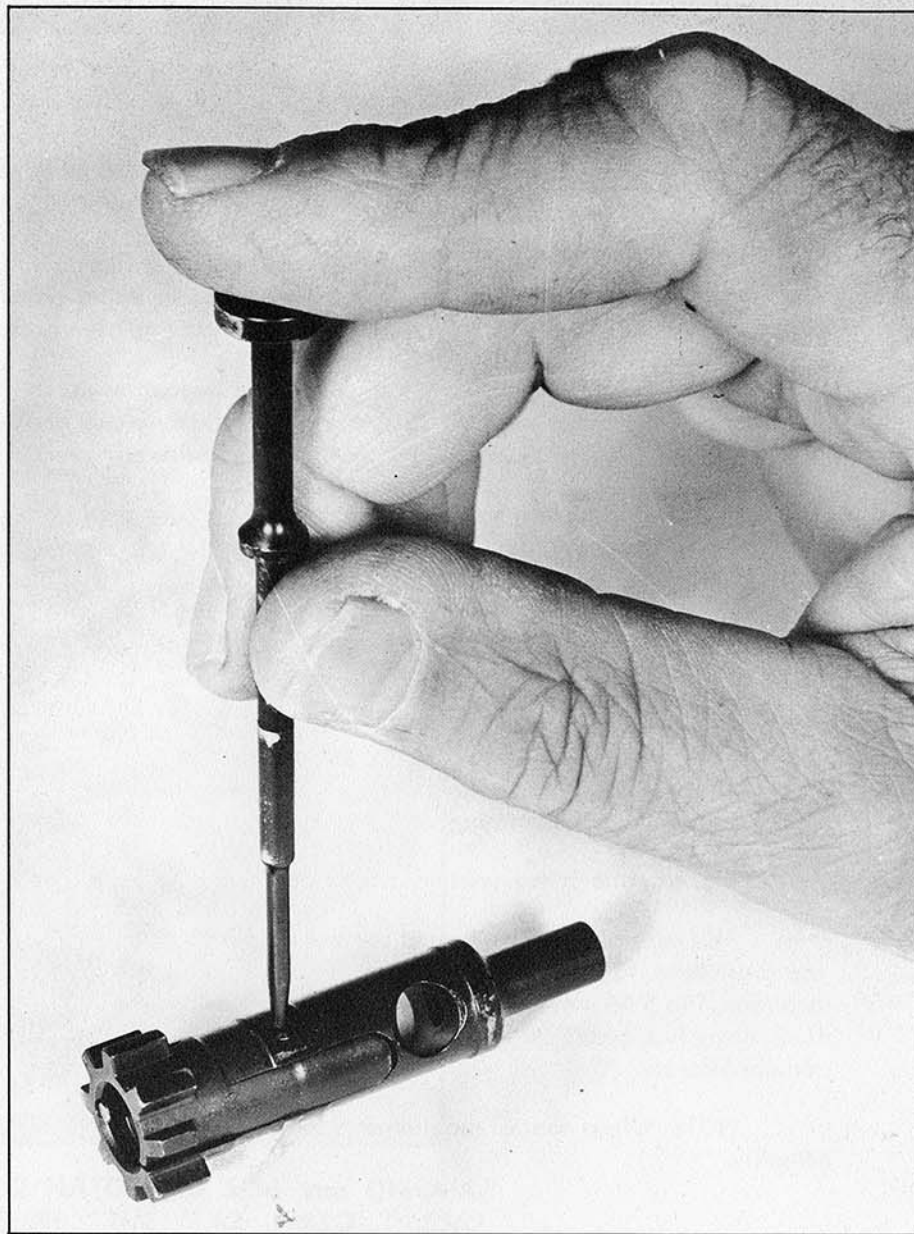
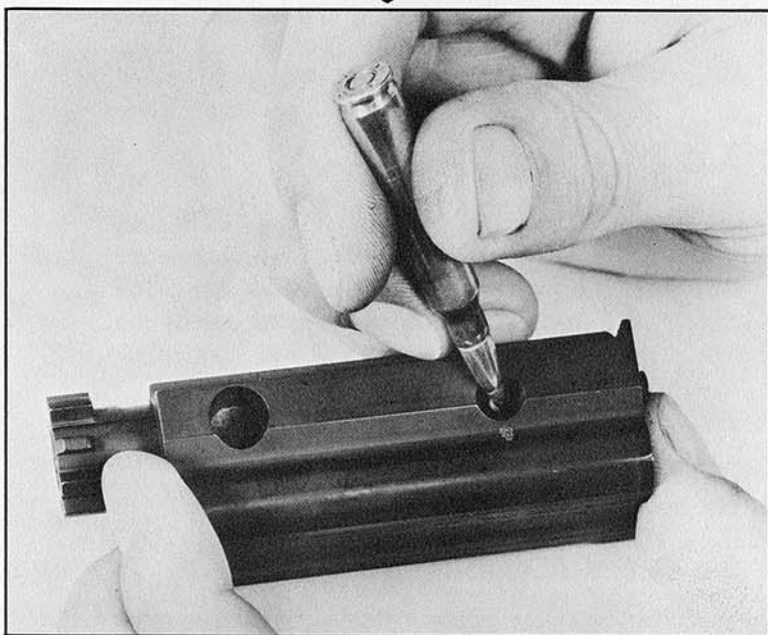
NOTE: Where special requirements exist, the cartridge (bullet characteristics) can be designed to meet any degree of reduced lethality.

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▲  
 A CARTRIDGE SERVES FOR SIGHT  
 ADJUSTMENT AND BOLT REMOVAL  
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DISMANTLING THE BOLT CARRIER PROVIDES THE  
 FIRING PIN AS THE ONE REMAINING TOOL FOR  
 COMPLETELY STRIPPING THE AR-18.



U. S. SERVICE PERSONNEL FIRING THE AR-18 ON THE 400 METER RANGE





**ARMALITE, Inc.**

118 EAST 16th STREET

COSTA MESA, CALIFORNIA 92627

TELEPHONE (714) 548-7701

CABLE ADDRESS: "ARMALITE", COSTA MESA, CALIF.

WASHINGTON OFFICE: SUITE 404 • 1700 K St., N.W. • WASHINGTON, D.C. • (202) 296-3565 • CABLE: ARMALITE