

BLUE SKY PRODUCTIONS, INC.

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U. S. M1 CARBINE CALIBER .30 OWNER/USER GUIDE

WARNING!

**DO NOT ATTEMPT TO USE THIS CARBINE UNTIL YOU HAVE
READ THIS GUIDE IN ITS ENTIRETY AND UNDERSTAND ALL
ASPECTS OF THE CARE AND USE OF THE CARBINE. EXEL
STRONGLY RECOMMENDS OBTAINING AND READING
COPIES OF THE DEPARTMENT OF THE ARMY FIELD
AND TECHNICAL MANUALS WRITTEN FOR
THIS CARBINE.**

**This carbine was manufactured to U. S. Government
specifications. Blue Sky Productions, Inc. makes no
warranties on this carbine including, but not
limited to, implied warranties of merchantability
or fitness for a particular purpose.**

**If you have any questions about the use of this
carbine or a source for obtaining the Department of
the Army manuals or ammunition, magazines,
please contact Blue Sky Productions, Inc.
at 703-528-1810 between the hours of 8:00 AM
and 4:00 PM Eastern time.**

M1 Carbine



M1 Carbine

M1 Carbine

Type	<u>Service rifle</u>
Nation(s) of Origin	<u>United States of America</u>
Era	<u>World War II</u> to <u>Vietnam War</u>
History	
Date of design	1938–1941
Production period	September 1941—
Service duration	U.S.: July 1942 to 1960's (US)
Operators	U.S. and <u>Allies</u> , Bavaria, Israel, Norway, South Vietnam, Brazil
War service	<u>WW2</u> , <u>Korean War</u> , <u>Vietnam War</u>
Variants	M1A1, M2, M3
Number built	Over 6.25 million

Specifications

Type	<u>Semi-automatic carbine</u> (M1 and M1A1)
<u>Caliber</u>	<u>7.62 x 33 mm (.30 Carbine)</u>
Barrel length	18 in (458 mm)
Ammunition	<u>.30 Carbine</u>
Magazine	15 or 30-round detachable box
<u>Action</u>	<u>Gas-operated, rotating bolt</u>
Length	35.6 in (904 mm)
Weight	5.2 lb (2.36 kg) empty
Rate of fire	<u>Semi-auto</u> (M1/A1); 650-700 rounds/min (M2/M3)
Muzzle velocity	1,970 ft/s (600 m/s)
Effective range	300 yards (275 m)

The **M1 Carbine** (more formally the **United States Carbine, Caliber .30, M1**) was a lightweight semi-automatic carbine

that became a standard firearm in the US military during World War II and the Korean War and resulted in a number of variants.

It found favor with many frontline troops, and came into wide use over several decades. In selective fire versions capable

of fully-automatic fire, it is designated **M2 Carbine**. The **M3 Carbine** was an M2 with an active infrared scope system.

It has also been a popular civilian firearm.

History

The US Army's M1 Garand rifle was originally developed to chamber a light .276 round, but this design feature was cancelled in the early 1930s, delaying introduction of the Garand (eventually chambered for the same powerful .30-06 Springfield round used in the Springfield 1903 rifle, the Browning Automatic Rifle, and the M1917/M1919 machine guns) until 1936. This left the army without the lighter, handier rifle it had wanted. This, along with lessons learned during earlier wars, observations of conflicts during the 1930s, and dissatisfaction with existing submachine guns and rifles contributed to the development of the M1 carbine.

Troops in the rear, or frontline troops required to carry a lot of other equipment (such as medics and engineers) had found the older full-size rifles too cumbersome, and pistols and revolvers to be insufficiently accurate or powerful. Submachine guns like the Thompson submachine gun were more than sufficiently powerful for close range encounters, but lacked effective range and were not significantly less difficult to carry and maintain than the existing service rifles (such as the M1903 and Garand). Much the same constraints applied to airborne infantry, a concept that was also under consideration at the time. Prior to the development and issue of machine pistols such as the M3 Grease Gun, a submachine gun like the Thompson was also much more expensive than pistols and most rifles of the period. The .30-06 Garand then entering into service in the late 1930s was as heavy and cumbersome as the existing service rifles. It was decided that a new weapon was needed for these other roles. While the range of a pistol is about 50 yards (45 m) and the existing rifles several hundred yards, the requirement for the new firearm called for a firearm with a range of 300 yards (275 m).

A carbine version of the standard issue semi-automatic rifle was considered, but the .30-06 round for which the M1 Garand was chambered was found to be too powerful. The requirement was for a weapon lighter and handier than the Garand, with less recoil than the Garand but greater range, accuracy, and effective stopping power than the M1911A1 pistols in current issue. The M1 Carbine was particularly intended for soldiers who needed a lightweight rifle — such as paratroopers and engineers — and for infantry involved in such shorter range engagements as commonly occurs in urban and jungle warfare.

In 1938, the Chief of Infantry requested that the Ordnance Department develop a lightweight rifle or carbine, though the formal requirement for the weapon type was not approved until 1940. This led to a competition in 1941 by major designers and US firearm companies. Winchester Repeating Arms at first did not submit a design. The company was too busy perfecting the Winchester Military Rifle in .30-06. The rifle originated as a design by Jonathan Edmund "Ed" Browning, the half-brother of inventor John Browning. A couple of months after Ed Browning died in May of 1939, Winchester hired ex-convict David M. "Carbine" Williams, a some-time bootlegger who had devised a short-stroke gas piston design while serving a prison sentence for murder. (This unlikely true story, a natural for the movie industry, was the basis of the 1952 movie Carbine Williams starring James Stewart.) Winchester hoped that Williams would be able to complete various designs left unfinished by Ed Browning. Williams first design change for the rifle was the incorporation of his short-stroke piston design. After Marine Corps semi-automatic rifle trials in 1940, Browning's rear-locking tilting bolt design was considered to be unreliable in sandy conditions. As a result, the rifle was redesigned yet again to incorporate a Garand-style rotating bolt and operating rod.

By May 1941, the rifle prototype had been shaved to a mere 7.5 pounds (3.4 kg). Winchester contacted the Ordnance Department to examine their design. They believed that the design could be scaled down to a carbine which weighed 4.5 to 4.75 pounds (2.0 to 2.2 kg). In response, Major René Studler demanded that they produce a carbine prototype as soon as possible. William C. Roemer and Fred Humeston developed the first model in 13 days. It was cobbled together using the trigger housing and lockwork of a Winchester M1905 rifle. The prototype was an immediate hit with Army observers. After the initial Army testing in August 1941, Winchester set out to develop a more refined version. The improved model competed successfully against other carbine candidates in September 1941, and Winchester was notified of their victory the very next month. Standardization as the M1 Carbine was approved October 22, 1941. Contrary to popular myth, Williams had little to do with the carbine's development. As a matter of fact, he went about creating his own design apart from the other Winchester staff. Williams' carbine design was not ready for testing until December 1941; two months after the Winchester M1 carbine had been adopted and type-classified.

The weapon was designed primarily to offer non-frontline troops a better weapon than a pistol in terms of range and hitting power, but without the recoil, cost, or weight of a full power weapon. The weapon would give rear-echelon troops a better chance to defend themselves if directly attacked. It was also easier for less experienced soldiers and smaller framed people to fire the weapon than the full power rifles of the day. In addition, it was useful for soldiers like radiomen, engineers, and medics that had to carry a lot of other equipment. Also, officers or NCO's would sometimes choose it over a submachine gun. The automatic and dedicated paratrooper versions would further expand its use.

The first M1 Carbines were delivered in mid 1942. Initially the weapon was scheduled to be developed with selective fire capability, but the decision was made to put the M1 into production without this feature. Fully-automatic fire capability was incorporated in the design of the M2 Carbine, a selective fire version of the M1. The M2 Carbine proved to be quite popular among frontline troops as well, and would go on to be used heavily in WWII, Korea, and in the earlier years of the War in Vietnam. These weapons began to be replaced by the M16 in the late 1960s, and many M1, M2, and M3 Carbines were given to the South Vietnamese.

The M1 series was finally replaced by the M16 in the 1960s, though it continued to be used as a civilian firearm. The M1 series was the most heavily produced US weapon for several decades, until surpassed by M16 production.



The soldier on the far right is holding an M1 Carbine

Performance

Although the M1 Carbine is sometimes described as a development of the M1 Garand, it has a related but different internal design. It is based upon a lightweight tappet-and-slide gas system and uses detachable, large-capacity magazines. It chambers the .30 Carbine, a smaller and lighter .30 caliber/7.62 mm cartridge that is very different, in both design and performance, from the larger .30-06 Springfield cartridge used in the Garand. The .30 Carbine cartridge was intermediate in both muzzle energy (*ME*) and muzzle velocity (*MV*); from the M1 carbine's 18-inch barrel, it had a muzzle velocity of approximately 580 to 600 m/s, between those of contemporary submachine guns (approximately 280 to 490 m/s) and full-power rifles and light machine guns (approximately 740 to 855 m/s). For example, the M3 Grease Gun had an MV of 281 m/s, the Bren light machine gun had an MV 744 m/s, and the M1 Garand had an MV of 853 m/s. It is important to realize that the barrel length affects the muzzle energy and velocity; more recent and shorter-barreled firearms (such as pistols) using the .30 Carbine cartridge are much weaker. At the M1 carbine's maximum listed range, its bullets still have about the same energy as small pistol like the Nambu pistol does at the muzzle.

One characteristic of the .30 Carbine ammunition is that it was specified that non-corrosive primers be used. This was the first major use of this type of primers in a military firearm. Because the rifle had a closed gas system, not normally disassembled, corrosive primers would have led to a rapid deterioration of the gas system.

The M1 carbine had a high practical rate of fire. This, and the carbine's lightweight, compactness, and low recoil made it a convenient self-defense weapon. These advantages made the weapon popular with many soldiers, but others did not appreciate it as much. For example, the quality of the original 300-yard (270 m) sight was a subject of some criticism, as was the carbine's performance in extremely cold temperatures beyond its designed minimum operating temperature.

Categorizing the M1 Carbine series has been the subject of much debate. Its muzzle energy and range are beyond those of any submachine gun of the period, but less than those of other service rifles of the period. The classification of the M2 and M3 is also a controversial subject. Whatever the case, these carbines used an intermediate-power cartridge and have much in common with the M16 rifle series that replaced it in the U.S. Army — although with shorter range (about 275 m versus 400 m). The 18-inch barrel of the M1 is two inches shorter than the M16's, but longer than the M4 Carbine's.

Variants



M1A1 Car. 30 Carbine with folding metal stock

M1A1 Carbine

Carbine M1A1

- Folding stock
- Paratrooper usage
- About 150,000 produced

Carbine M2

- Early 1945
- The M2 Carbine was a selective fire (capable of fully-automatic fire) version and was used with a 30-round magazine
- About 600,000 produced

Carbine M3

- M1 with mounting for an early active (infrared) night vision sight
- Saw extensive use in the battle of Okinawa. An improved version of the M3 was used in Korea as well
- About 3,000 produced

Round Types

The rounds used by the military with the carbine include:

- Cartridge, Caliber .30, Carbine, Ball, M1
- Cartridge, Caliber .30, Carbine, Grenade, M6
- Cartridge, Dummy, Caliber .30, Carbine, M13
- Cartridge, Caliber .30, Carbine, Ball, High Pressure Test, M18
- Cartridge, Caliber .30, Carbine, Tracer, M27

Attachments

The M1 was used with the M8 Grenade Launcher, which fired the M6 cartridge. It used the M4 Bayonet. The M4 Bayonet formed the basis for the later M6 and M7 Bayonet-knives.

Production and Usage

A total of 6.25 million M1 Carbines of various models were manufactured, thus making it the most produced small arm in American military history. Despite being designed by Winchester, the great majority of these were made by other companies. The largest producer was the Inland division of General Motors, but contractors made many others as diverse as IBM and the Rock-Ola jukebox company.

The German designation for captured Carbines was Selbstladekarabiner 455(a). The "(a)" came from the country name in German, in this case, *Amerika*.

Numerous M1 Carbines were obtained and used by the Israeli Palmach-based special forces in the Israeli War of Independence in 1948. Because of their compact size and semi-auto capabilities, the M1 carbines were given to reconnaissance companies of the Israeli Defense Forces.

It was also used by police and border guard in Bavaria after WW2 and into the 1950s. Weapons that were used were stamped accordingly. For example, ones used by the border guard were stamped *BUNDESGRENZSCHUTZ*. Some that were used were modified with different sights, finishes, and even barrels.

After the Korean War the Carbine was widely exported to US allies and client states, and was used as a front-line weapon well into the Vietnam era. The M1 was quite popular in both the Korean and Israeli militaries. Surplus Carbines are popular among firearms enthusiasts in the US and elsewhere. Starting in the mid-1950s, U.S. military surplus M1 Carbines were sold through the National Rifle Association for \$20. When surplus stocks began to wane there was limited civilian production of the design by Iver-Johnson, Universal (who made some changes in the parts), and then Israel Arms International. This extended production into the 1990s. As of 2004, the M1 Carbine was again being manufactured commercially by a subsidiary of Kahr Arms - Auto Ordnance.

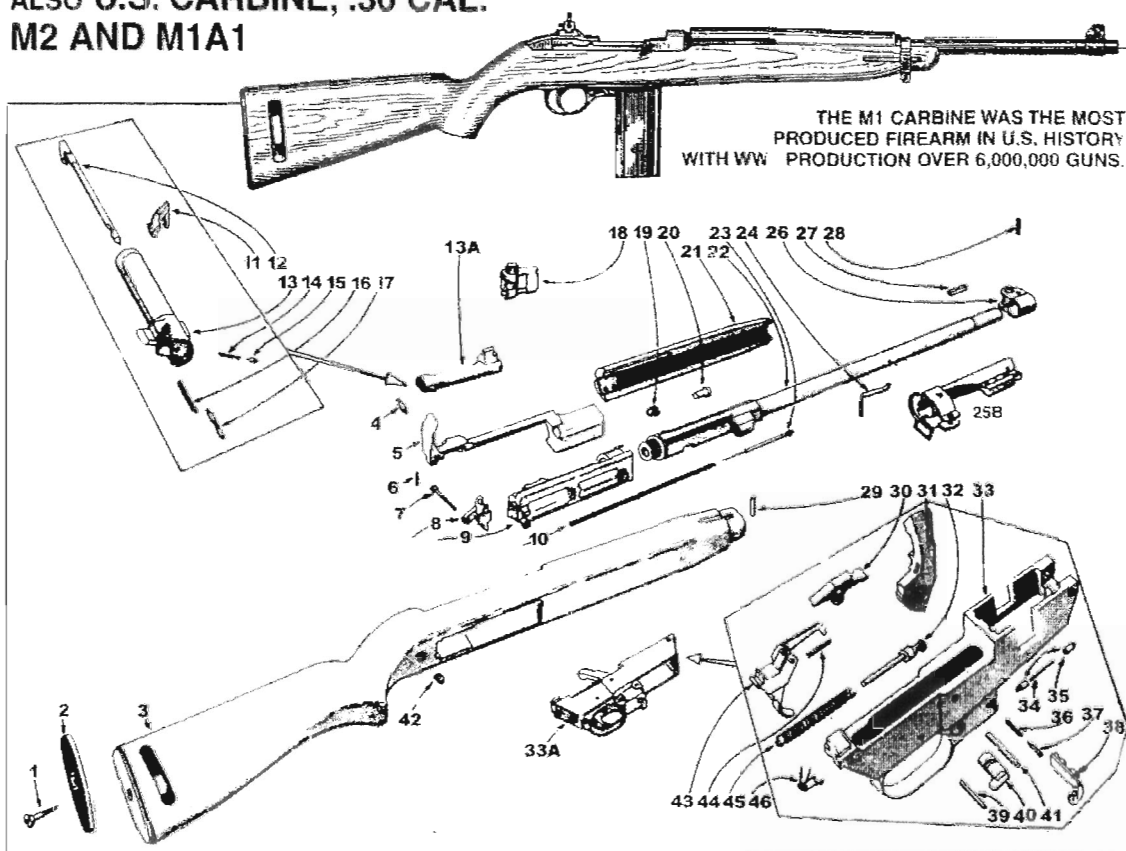
The M1 Carbine is still in use today by many civilian shooters and police. The .30 Carbine is used for a number of types of hunting, including that of white-tailed deer. Note that the round is considered underpowered for larger North American game such as elk, moose, and bear, which are significantly tougher than humans. Also, the rules do not take into the account the ability to fire multiple shots, and the automatic version is highly restricted. The gun's inherent accuracy, combined with a somewhat diminished risk of over-penetration due to its round-headed comparatively lightweight projectile, is considered to be of tactical use in urban areas, where civilians may be on the other side of walls. The bullet is actually about twice as heavy as 5.56 mm NATO bullets, and has an order of magnitude higher penetration than submachine guns, as various ballistic tests confirm. The Israeli police still use the M1 Carbine as standard rifle for non-combat elements and MASHAZ volunteers.

In Rio de Janeiro, Brazil, a police battalion named BOPE (*Batalhão de Operações Policiais Especiais*, or "Special Police Operations Battalion") also uses the M1 Carbine.

U.S. MILITARY

U.S. CARBINE, .30 CAL. M1

ALSO U.S. CARBINE, .30 CAL.
M2 AND M1A1



KEY# ITEM# DESCRIPTION

M1 CARBINE, M1A1, M2 CARBINE

KEY#	ITEM#	DESCRIPTION
4	542198	Slide Lock
6	542210	Slide Lock Spring
9	542240	Receiver, Marked Iver Johnson, Blued (FPL Req'd)
10	542250	Operating Slide Spring
11	542260	Extractor
12	542270	Firing Pin
14	542300	Extractor Spring
15	542350	Extractor Spring Plunger
16	542320	Ejector Spring
17	542330	Ejector
17A	542340	Ejector And Spring Assembly, NI
18A	542350	Rear Sight, Middle Issue, Milled
18B	542360	Rear Sight, Late Issue, Stamped
18C	542390	Rear Sight, First Issue, "L" Type, NI
19	563320	Gas Piston Nut
20	542420	Gas Piston
22B	593000	Barrel Assembly
23	542470	Recoil Spring Guide
24	542480	Band Spring
25	542490	Barrel Band With Screw And Screw, NI

KEY#	ITEM#	DESCRIPTION
25B	542506	Barrel Band W/ Bayonet Lug, Original, Parkenized
	817620	Barrel Band W/ Bayonet Lug, Parkenized, Replacement
	817630	Barrel Band, W/ Bayonet Lug, Blue
26	542529	Front Sight
27	542530	Front Sight Key
28	542550	Front Sight Pin
29	542580	Trigger Guard Pin
32	542710	Hammer Spring Plunger
34,35	542950	Safety Spring And Safety Spring Plunger
36	542970	Magazine Catch Spring
37	542990	Magazine Catch Plunger
38	543020	Trigger Pin
40A	543060	Safety, Wing Type
40B	543050	Safety, Old Type Push, Original, NI
41	543060	Hammer Pin
43	543190	Trigger
44	543140	Sear Spring
45	563370	Hammer Spring
46	543150	Trigger Spring

KEY#	ITEM#	DESCRIPTION
60	543690	Piston Wrench, GI Issue
61	543590	Stripper Clip & Guide, 10 Round
62	543610	Magazine, 5 Round
62A	543620	Magazine, 10 Round
63	544550	Magazine, 30 Cal., 15 Round
64	543670	Magazine, 30 Round - New Manufacture
65	543680	Magazine Cap, Rubber
66	543740	Jungle Clip - Connects 2 - 30 Round Magazines
67	543750	Magazine Pouch, 15 Round
67A	543800	Magazine Belt/Stock Pouch
C-68	545250	Magazine Pouch, 30 Round, 4 Pocket
74	543850	Sling & Oiler
70	544750	Muzzlebrake, New Manufacture
73	543920	Handguard, Vented, Parkenized Steel
73A	543940	Handguard Vented, Blue Steel
74	548240	Oiler
75	543980	Trigger Spring Tool
75A	544000	Sling Keeper, Metal

U.S. MILITARY

CONTINUED

U.S. CARBINE, .30 CAL. M1

KEY#	ITEM#	DESCRIPTION
76	409650	Grenade Launcher Sight & Mount Plate In Canvas Pouch M-15 NI
77	350260	Original M4US M1/M2 Carbine Bayonet And Scabbard
79	544360	Cleaning Rod Case, Canvas
80	544110	Cleaning Rod W/ Handle Slotted Tip & Brush - Late Issue
81	544180	Recoil Spring Housing, Early Manufacture
82	544700	Slings
83	544220	Compensator, Solder On
84	544250	Bolt Tool, New Manufacture
PARTS UNIQUE TO THE M1 CARBINE, M2 CARBINE		
1	522090	Screw (Buttplate)
2	542170	Buttplate
03	-	Stocks,
42	543110	Stock Escutcheon
7	542220	Recoil Plate Screw

KEY#	ITEM#	DESCRIPTION
8	542230	Recoil Plate
PARTS UNIQUE TO THE M1 CARBINE, M1A1		
5	542200	Slide
13A	544350	Bolt, Complete Flat
13C	544400	Bolt, Stripped, Flat
30	542660	Sear
31	542680	Hammer
33	542810	Trigger Housing, Milled
-	544470	Trigger Guard, Stamped
33A	542930	Trigger Housing, Complete
38	543000	Magazine Catch
PARTS UNIQUE TO THE M1A1		
47	543170	Recoil Plate, NI
48	543200	Recoil Plate Screw NI
49	540350	Grip, NI
M2 CARBINE		
59	543430	Trigger Housing, Stripped, NI
58	543390	Operating Slide, NI

KEY#	ITEM#	DESCRIPTION
57	543370	Disconnecter Lever (NI License/Regist. Req'd)
56	543360	Disconnecter Spring Plunger (NI License/Regist. Req'd)
55	543350	Disconnecter Spring (NI License/Regist. Req'd)
54	543340	Selector Switch Spring (NI License/Regist. Req'd)
53	543330	Selector Switch (NI License/Regist. Req'd)
52	543310	Magazine Catch, NI
51	543300	Sear, NI
50	543260	Hammer
13B	544380	Bolt, Round, Complete, NI
13D	544410	Bolt, Round Stripped NI

CLEANING BEFORE USE:

The barrel and chamber must be free of any oil, grease or obstructions before attempting to fire the carbine. First make sure the carbine is empty by pulling the operating slide all the way to the rear. Depress the operating slide stop (located at the top rear of the operating slide) and allow the operating slide to slowly move forward a short distance where it will be caught and held by the operating slide stop. Look into the action and chamber to confirm the carbine is empty.

Use a cleaning rod and cloth patches of the correct size and clean the bore and chamber, entering from the muzzle end. Clean the bolt face with cotton tipped applicator or patch and wipe off any excess oil or grease in the action area. To close the action, pull back on the operating side, then release.

AMMUNITION:

Use only factory loaded cartridges in good condition and marked 30 Carbine or U. S. Cal. .30 Carbine. The use of reloads in this carbine is not recommended.

LOADING AND FIRING:

Make sure the safety (located on the right side in front of the trigger guard) is “on” by rotating the safety lever all the way counter-clockwise (down). Load cartridges into the magazine. NOTE: The magazine is not supplied with the carbine.

Insert the magazine into the receiver from the bottom and push it until it locks into position. Open the action by pulling the operating slide all the way to the rear, then release the operating slide and the first round will be fed into the chamber.

To fire, take aim and rotate the safety lever clockwise (up) to “off”. Each pull of the trigger will fire one round. Always return the safety to the “on” position after firing.

UNLOADING:

To unload the carbine, make sure the safe is “on” and the muzzle is pointing in a safe direction. Remove the magazine by pressing the magazine catch (located in front of the safety lever) in toward the left.

To remove the round in the chamber, pull the operating slide slowly to the rear until the cartridge clears the receiver, using the free hand to catch the cartridge as it is ejected. Release the operating slide to close the action.

MAINTENANCE:

After firing, clean the carbine as described in “CLEANING BEFORE USE”. The carbine should always be kept clean and lightly oiled to prevent corrosion. Use a good quality oil or rust inhibitor applied with a cloth to all exposed metal surfaces.

The bore should also be lightly oiled if the rifle is not to be used for several days or more. Apply a small quantity of oil to a patch and pass it through the bore with a cleaning rod.

The gas cylinder should be cleaned periodically to remove carbon buildup. Blue Sky Productions, Inc. does not recommend disassembling the gas cylinder or any other portion of the carbine unless you are thoroughly familiar with the methods involved. A competent gunsmith will be able to perform service and repairs should the need arise.

SAFETY:

SAFE AND PROPER GUN HANDLING IS THE RESPONSIBILITY OF THE USER. ALWAYS KEEP THIS IN MIND WHEN HANDLING FIREARMS.

- **NEVER POINT A FIREARM AT ANYTHING YOU DO NOT WANT TO SHOOT.**
- **ALWAYS UNLOAD AFTER FIRING.**
- **KEEP ALL FIREARMS OUT OF THE REACH OF CHILDREN AND OTHERS YOU DO NOT WANT HANDLING THEM.**
- **NEVER COMPLETELY RELY ON THE SAFETY TO PREVENT ACCIDENTIAL DISCHARGE.**
- **ALWAYS WEAR GOOD QUALITY SAFETY GLASSES AND HEARING PROTECTION WHEN SHOOTING.**
- **NEVER CARRY A LOADED FIREARM IN A VEHICLE.**
- **NEVER STORE A LOADED FIREARM OR LEAVE IT UNATTENDED.**
- **KEEP BYSTANDERS AWAY FROM THE LINE OF FIRE AND EJECTING SHELL CASINGS.**
- **HANDLE AND STORE AMMUNITION CAREFULLY TO PREVENT ACCIDENTIAL DISCHARGE.**
- **NEVER HAND ANYONE A LOADED FIREARM OR ACCEPT ONE WITHOUT CHECKING TO SEE IF IT IS LOADED.**
- **ALWAYS MAKE SURE OF YOUR TARGET AND BACKDROP.**