



# firearms & self-defense



a handbook for  
radicals,  
revolutionaries  
and easy riders

50¢

intl. liberation school

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# IN DEFENSE OF SELF DEFENSE

America has a long tradition of vigilante paramilitary violence. Usually it has been directed against blacks and Third World people, poor whites and dissident political groups.

In the last several years some of us have come under this type of vigilante attack because of our politics and our life styles. People have been killed in movement offices in Texas, New York, and Detroit. A radical professor was almost knifed to death in his office by an assailant. And, the Easy Rider situation is all too true in many parts of the country.

While such cases of paramilitary right wing violence have not happened in extremely large numbers, they have occurred often enough to make it worthwhile to acquire some familiarity with firearms. In many situations it is possible to defend yourself successfully. While the legal system is biased against us, nevertheless the law is very much stacked in favor of self defense. For example, if an intruder enters your house with "harmful intent" you are within your legal rights to kill him. Possession of a gun and knowledge of how to use it is sometimes a deterrent in itself. Many people still view hippies and white movement youth as pacifists who don't fight back and can be beaten and attacked with impunity. They must be made to realize that flower children can grow thorns.

In many parts of the country the paramilitary right wing is not very active. Almost everywhere, the main physical threat has come from the pigs. In most situations involving confrontations with pig forces armed self defense has not been feasible, since oppression has come primarily through the courts. If the pigs come to the door to arrest you, most people will go along, since armed self defense in this case might mean death, or, a much higher level of oppression in the ensuing court case. If the assailant at your door happens to be an agent of the state, all your legal rights of self defense vanish, and if you employ armed self defense you will be tried for murder or attempted murder.

But, as the system becomes more repressive the pigs begin to go beyond their "normal" role of arresting people who are then dealt with through the courts, and instead, begin to function as executioners in the streets. Their attack is direct and physical, and their goal in many cases is to kill. Under these conditions armed self defense becomes necessary.

When the stakes are increased, the risks of armed self defense are preferable to submission that means death.

Black and Third World people have, through their history in this country, been subject to this sort of direct, fascistic, physical attack by police. Many instances, from Robert F. Williams in 1961 to the L.A. Panthers just recently, attest to the fact that armed self

defense can be carried out successfully. It seems clear that if Robert Williams had not had a gun, he would have been lynched by whites; if the L.A. Panthers had meekly surrendered at 5 am, at least some of them would have been executed on the spot. One of the outcomes, of course, is exile or repression in the courts, but it must be understood that death in the streets is the alternative.

Even more important than survival, perhaps, is the fact that these instances of successful defense have made a tremendous political impact in the black community—demonstrating the possibility of resistance and defense.

This type of fascist police attack with intent to kill has been very rare against whites, but as the contradictions of our society grow more acute, we can expect more of this against whites, and the same lessons apply.

Some people say that guns in the movement are bullshit, because "no one is ready to use them," so that it becomes just one more case of movement rhetoric outstripping reality, making people see us as fraudulent. It is true that there is a lot of talk about guns, armed self defense, armed revolution, etc., in the radical movement, with very little practice along these lines. But this does not mean that we should disavow or ignore the question of guns; rather we should become familiar with them and develop realistic attitudes about their use. Too many people have a sort of death trip approach to guns—they assume that if you acquire a gun, and aren't bullshitting around, then you should prove your convictions via a suicidal shootout in the streets. This is a misconception—self defense and guns can be one part of revolutionary violence, a more serious movement that develops many means of struggle and resistance. We should also become adept at other forms of self defense, such as karate, judo, etc., which allow a person to defend himself in street confrontations, and we should acquire medical knowledge as well.

In the short run many of us have options available—we don't have to participate in a radical movement, take risks, get arrested, etc. Many of us, especially whites, can back off, and not feel the repression. But in the slightly longer run, this is impossible. Those around the world who are engaged in armed struggle against the U.S. Leviathan will surely grow and be victorious, and inexorably we will all be drawn in—either as "part of the solution or part of the problem." If we sympathize with this worldwide struggle, and consider their fight to be our fight, then we should begin now to relate to the tools of worldwide liberation.

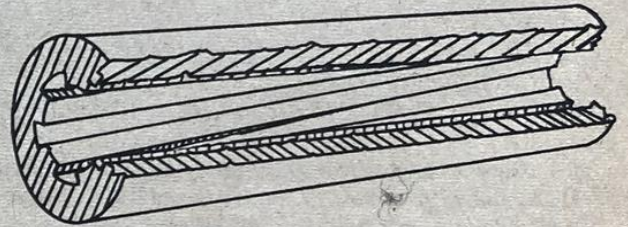
# Ballistics

The first step in understanding firearms is an understanding of the projectiles which they fire—this is called the study of ballistics.

Fig. 1 shows a typical rifle cartridge, made up of a brass shell or case, a powder charge, a primer, and a bullet. This is called a cartridge or a "round." A cartridge made for a shotgun is called a "shell." All guns are constructed in such a way that when the trigger is pulled, a pin called a firing pin snaps forward and hits the cartridge primer. The primer is filled with a substance that explodes on impact of the firing pin sending a small flame through the flashhole in the cartridge base into the powder compartment. The powder itself does not explode, but burns very rapidly, and builds up a tremendous pressure, up to 50,000 pounds per square inch in some rifles. This high pressure dislodges the bullet from the mouth of the shell and drives it down the barrel.

The bullet is the only part of the cartridge that leaves the barrel. The barrels on rifles and pistols are "rifled"—spiraling grooves are cut into their inner surfaces. As the bullet is pushed through the barrel, it is

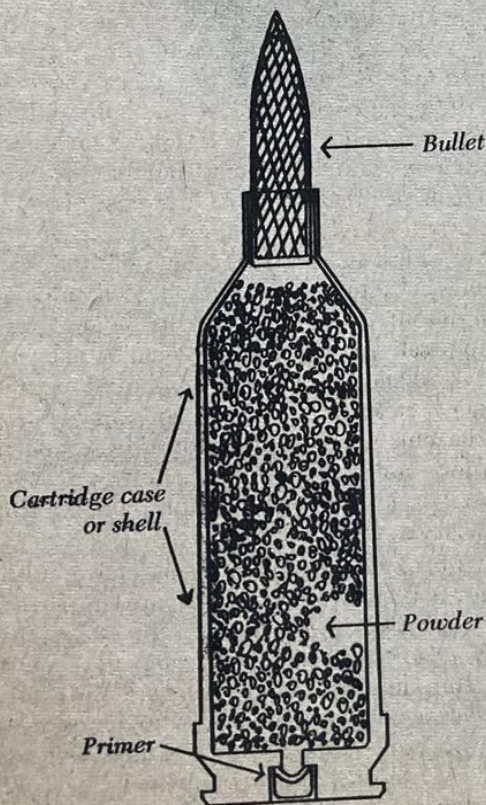
gripped by the grooves and by the barrel surfaces between the grooves. This grip on the bullet by the lands and grooves causes it to spin, and by the time it leaves the barrel, it is spinning very fast, up to 4000 RPM. "Lands" are the barrel surfaces between the grooves. The diameter of a barrel measured from the bottom of the grooves is then slightly greater than that measured from the land surfaces. This is known as "groove diameter," or "bore diameter." Bullets are made at close to groove diameter, so they will fill the grooves as they move forward through the barrel. This seals the gases and pressure against the base of the bullet.



*"Rifling" or grooves in a rifle or pistol barrel cause the bullet to spin as it travels toward the muzzle.*

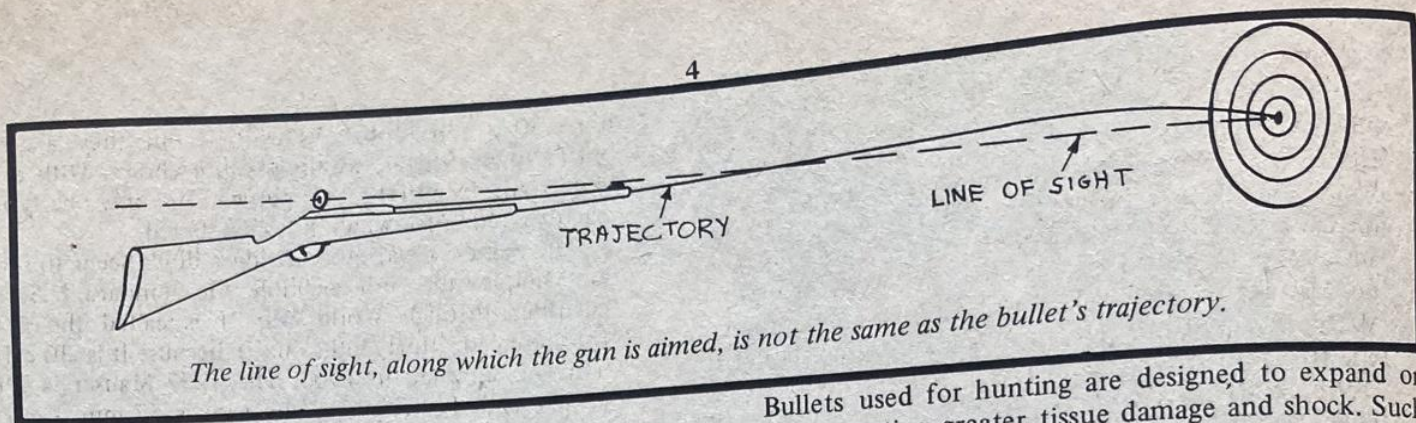
The bullet is stabilized by its spin, just like a gyroscope or a top, so that it cannot tumble or turn end over end after it leaves the barrel. The accuracy of the bullet stems from the stability created by its spin. The longer a bullet is in relation to its diameter, the faster it must spin to remain stable. The rate of spin is governed by the degree of "pitch" in the grooves, measured, for example, as "1 in 10," meaning the bullet rotates one complete revolution per 10 inches of barrel travel.

Shotgun barrels are not rifled, since they are designed to shoot a number of small pellets which would be deformed by rifling and would tend to scatter erratically. Unrifled barrels are called "smoothbore" barrels.



*Typical rifle cartridge, showing parts.*

The bullet leaves the barrel moving very fast—anywhere from about 700 feet/second (500 miles/hour), up to about 4000 feet/second, depending on the type of gun. The bullet does not travel in a straight line. Like all objects, it is affected by gravity, so during the entire time that it is moving forward, it is also **falling**. In order to offset this pull of gravity, the barrel of a gun must be elevated at its front end (called the muzzle) in order to hit a distant target. The muzzle must actually point **above** the target so that the bullet's flight path becomes an arc from the muzzle to the point of impact. This is called the **trajectory**.



### Bullet Velocity

The velocity of the bullet has an important effect on the amount of elevation required. The faster a bullet travels, the less time gravity has to act on it; this is why high-velocity ammunition has a "flat" trajectory.

After the bullet leaves the barrel, air resistance immediately begins to slow it down. The rate at which it slows down is dependent on such factors as the weight and shape of the bullet. Ballistics tables for cartridges usually list the velocity at the muzzle, and at 100, 200, and 300 yards. The effect of air resistance is seen in the fact that a typical rifle cartridge with an extreme range of about 2½ miles would have an extreme range of 47 miles if there were no air resistance!

Gravity isn't the only force acting on the bullet. Wind, even a slight breeze, will make the bullet drift away from the point at which you are aiming. This factor is negligible at very short distances, but in very long range shooting it can be significant. For example, at 300 yards, a mild breeze could make the bullet deviate from the target by as much as 12 to 14 inches.

### When the Bullet Hits

The energy of a bullet depends on the weight and velocity of the bullet; it is proportional to the weight of the bullet and to the square of its velocity. This means that if you double the weight of a bullet you double its energy, but if you double its velocity you quadruple its energy.

Bullet weight is measured in grains (485 grains=one ounce), and varies from 29 grains in .22 Short caliber, to over 500 grains for elephant cartridges and rifled shotgun slugs.

Energy is measured in foot-pounds, an engineering unit (a one pound weight falling one foot would strike with one foot-pound of energy). Because the bullet velocity decreases with distance, the bullet energy also decreases; that is why ballistic tables list energy at the muzzle and at various distances. The energy of cartridges varies greatly—from 50 footpounds for the little .22 rimfire short cartridge, up to 5000 foot pounds for the gigantic .458 Winchester magnum cartridge, used for hunting elephants and rhinos.

### Bullet Construction

In general, the killing power or stopping power of a cartridge is dependent on the energy; the greater the energy, the greater the killing power. But it also has a lot to do with other factors, especially the construction of the bullet.

Bullets used for hunting are designed to expand on impact, creating greater tissue damage and shock. Such bullets have a lead core and a partial jacket made of a harder metal. The tip is either exposed soft lead or has a hollow point, so that the bullet "mushrooms" when it hits, often more than doubling its diameter (see diagram). Because of this rapid expansion, this type of bullet will generally come to rest inside the target, which means that it transfers all of its energy to the target.

The opposite type of bullet is the military type, which is completely jacketed and expands very little, if at all. Such a bullet will produce a relatively clean wound and will often go right through the body without losing a great deal of its velocity. According to the Geneva convention of 1902, fully jacketed bullets are the only type allowable for military use, the theory being that they will produce cleaner, more humane wounds and less suffering.



Perfectly mushroomed bullet after impact. Note that its diameter has almost doubled.

On the other hand, only soft point bullets are allowed for hunting game. The theory here is that soft point ammo is likely to kill instantly while full jacketed ammo might only wound the animal, which could then run off to lie a lingering death, with greater suffering.

While the Geneva Convention applies to military forces, it does not apply to domestic police forces, who are free to use any type of ammunition and generally avail themselves of soft point ammo. High power rifles have so much energy that even with full jacketed bullets they have a great deal of killing power, but in the case of handgun cartridges, which have much smaller energies, soft point and hollow point bullets are much preferable to full jacketed bullets (see below for discussion of handgun bullets). In addition to military and semi-jacketed bullets, there are also cast lead bullets which have no jackets at all. These are often cheaply made or homemade bullets used for practice. They are not practical in very high velocity cartridges, where the high pressure and heat necessitates a metal jacket to seal the gases.

There are additional factors which affect killing power. Suppose you had two bullets, one light and moving very fast, and the other heavy and moving relatively slowly, with the same amount of energy. Which one would have more killing power? This is a difficult question to answer, since there are some advantages to both types of cartridges. Very fast moving bullets take on a special behavior. For example, the U.S. M-16 rifle used in Vietnam uses a very small bullet (55 grains) moving at a very high velocity (3400 feet/second). Because of its very high velocity, this bullet tends to tumble end over end when it enters a body, creating much greater tissue damage, similar to a soft point bullet. Therefore, the M-16 cartridge can be said to violate the spirit of the Geneva Convention, even though the bullet is fully jacketed.

On the other hand, there are disadvantages to ultra high speed bullets—they are very easily deflected if they hit even a blade of grass, and can even disintegrate if they hit a small branch. A heavier slower bullet would be deflected much less. The standard Vietcong cartridge as used in the AK 47 rifle uses a heavier (120 grain) and slower (2300 feet/second) cartridge. Many military specialists think that this cartridge is superior to the M-16 cartridge.

### Bullet Penetration

In some situations, a bullet must penetrate some obstacles such as a wall, car door, metal plates, etc. In such cases, the fully jacketed military bullet may be preferable to the expanding soft point bullet, since the converse of rapid expansion is poorer penetration. The fully jacketed 30-06 military bullet will, at 50 yards, penetrate through 70 inches of solid 1-inch thick pine boards. The same bullet with a soft point would expand and penetrate a much shorter distance. For ultra high penetration, there are "metal piercing" bullets, with a hardened steel tip, designed to penetrate through armor plate. Of course, they won't expand at all.

### Calibers and Cartridges

"Caliber" refers to the interior diameter of the barrel or the diameter of the bullet. English or American cartridges have caliber designate in hundreds or thousands of an inch, (.30) or (.308). European calibers are expressed in millimeters, such as 9 mm, 7.65 mm, etc. Caliber usually refers to the bore diameter—that is, measurements made from the top of the raised surfaces between the grooves in the barrel. The diameter of the bullet is a little bigger, so that it can fit into the grooves and provide a gas-tight seal. For example, bullets for .30 caliber guns are actually .308 inches in diameter.

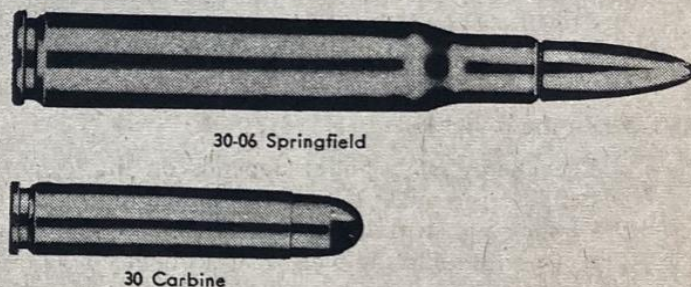
In any given caliber there can be more than one cartridge type, since caliber refers only to bullet diameter and not to the dimensions of the cartridge case. For example the .30 caliber M-1 carbine cartridge and

the .30-06 are both .30 caliber, but they are very different cartridges, as the picture shows. With a few important exceptions, any gun will fire only one type of cartridge—that for which it is chambered.

The names of various cartridges don't seem to follow any simple rule. For example the standard U.S. rifle cartridge through World War II is called the .30-06 (pronounced "thirty odd six"), because it is .30 caliber and was adopted in 1906. The 7x57 Mauser is 7 mm caliber and the length of the case is 57 mm. Even the caliber designation isn't always accurate; the .38 Special, a popular handgun cartridge, actually has a bore diameter of .357.

Most of the standard military cartridges of various countries are actually very similar to each other. The names of the common ones are: U.S. .30-06; England .303 British; Germany 8 mm Mauser (also called 8x57 and 7.92 mm Mauser); Japan 7.7 mm Arisaka; Italy 6.5 mm and 7.35 mm Caracano, Spain 7 mm Mauser; Argentina, Brazil, Belgium 7.65 mm Mauser; Russia 7.62 mm Russian.

There are also many sporting rifle cartridges available, ranging from small high velocity, to very heavy powerful cartridges such as the various Magnum rifle cartridges.



*Both cartridges are .30 caliber, but the .30-06 is almost 3 times as powerful as the carbine cartridge.*

### HOW TO READ A BALLISTICS TABLE

Most of the information discussed so far can be seen by looking at ballistics tables which are published by various ammo manufacturers. These tables list all of the cartridges made, with various bullet weights, and describe their ballistics, i.e., their energy and velocity at the muzzle and at various distances, and how "curved" their trajectory is, that is, how many inches above or below the line of sight the bullet will impact when the rifle is sighted in at 100 yards.

Let's take a look at the .30-06 Springfield with 180 grain bullet. Looking at the table, we find that the muzzle velocity is 2700 ft/sec. At 300 yards it is

# RIFLE BALLISTICS

Inches above (+) or below (-) line of sight.  
Rifle sighted for 100 yds.

| Cartridge                   | Wt. Grs. | Bullet Style | Velocity     |      | Muzzle | Energy      |      | Inches above (+) or below (-) line of sight. |          |          |          |       |
|-----------------------------|----------|--------------|--------------|------|--------|-------------|------|--|----------|----------|----------|-------|
|                             |          |              | Foot Seconds | Yds. |        | Foot Pounds | Yds. | 50 Yds.                                      | 100 Yds. | 200 Yds. | 300 Yds. |       |
| .30-30 Winchester H.V.      | 170      | I.B.S.P.     | 1890         | 1630 | 1410   | 1860        | 1350 | 1000   | 750      | +0.7     | -8.2     | -29.6 |
| .30 Remington H.V.          | 170      | I.B.S.P.     | 1890         | 1630 | 1410   | 1860        | 1350 | 1000   | 750      | +0.6     | -9.5     | -33.8 |
| .30-40 Krag H.V.            | 180      | I.B.S.P.     | 2120         | 1830 | 1590   | 2440        | 1790 | 1340   | 1010     | +0.3     | -6.4     | -23.4 |
| .30-40 Krag H.V.            | 180      | I.B.P.S.P.   | 2250         | 2040 | 1850   | 2440        | 2020 | 1660   | 1370     | +0.3     | -6.1     | -20.2 |
| .30-40 Krag H.V.            | 220      | I.B.S.P.     | 1930         | 1700 | 1510   | 2360        | 1820 | 1410   | 1110     | +0.5     | -8.3     | -28.5 |
| .30/06 Springfield Hi-Speed | 110      | P.S.P.       | 3420         | 2490 | 2090   | 2850        | 2110 | 1510   | 1070     | 0.0      | -3.4     | -13.1 |
| .30/06 Springfield H.V.     | 180      | I.B.S.P.     | 2330         | 2010 | 1740   | 2910        | 2170 | 1610   | 1210     | +0.2     | -5.8     | -19.2 |
| .30/06 Springfield H.V.     | 220      | I.B.H.P.     | 2120         | 1870 | 1670   | 2830        | 2190 | 1710   | 1360     | +0.3     | -6.7     | -23.6 |
| .30/06 Springfield H.V.     | 220      | I.B.S.P.     | 2410         | 2120 | 1870   | 2830        | 2190 | 1710   | 1360     | +0.3     | -6.7     | -23.6 |
| .300 H & H Magnum H.V.      | 220      | I.B.S.P.     | 2620         | 2050 | 1830   | 3350        | 2630 | 2050   | 1630     | +0.2     | -5.7     | -19.1 |
| .300 Savage H.V.            | 150      | I.B.S.P.     | 2270         | 1930 | 1660   | 2370        | 1710 | 1240   | 915      | +0.2     | -5.9     | -20.4 |
| .300 Savage H.V.            | 150      | I.B.P.S.P.   | 2390         | 2130 | 1890   | 2370        | 1900 | 1510   | 1190     | +0.2     | -5.4     | -17.9 |
| .300 Savage H.V.            | 180      | I.B.S.P.     | 2040         | 1760 | 1520   | 2240        | 1660 | 1240   | 921      | +0.4     | -7.5     | -25.3 |
| .300 Savage H.V.            | 180      | I.B.P.S.P.   | 2370         | 2160 | 1770   | 2240        | 1860 | 1530   | 1250     | +0.4     | -6.5     | -22.3 |
| .303 British                | 215      | S.P.         | 2180         | 1900 | 1460   | 2270        | 1720 | 1310   | 1020     | +0.6     | -9.1     | -30.2 |
| .303 Savage H.V.            | 180      | I.B.S.P.     | 2140         | 1810 | 1550   | 1830        | 1310 | 960  | 715      | +0.6     | -10.0    | -33.8 |
| .308 Winchester H.V.        | 110      | P.S.P.       | 3340         | 2340 | 1920   | 2730        | 1930 | 1340   | 900      | 0.0      | -3.7     | -13.6 |
| .308 Winchester H.V.        | 180      | I.B.P.S.P.   | 2610         | 2390 | 1970   | 2720        | 2280 | 1870   | 1540     | +0.3     | -5.0     | -17.8 |
| .32 Remington H.V.          | 170      | I.B.S.P.     | 2220         | 1890 | 1400   | 1860        | 1350 | 975  | 740      | +0.6     | -9.5     | -33.3 |
| .32 Win. Spec. H.V.         | 170      | I.B.H.P.     | 2280         | 1920 | 1630   | 1960        | 1390 | 1000   | 750      | +0.5     | -8.5     | -29.8 |
| .32 Win. Spec. H.V.         | 170      | I.B.S.P.     | 2280         | 1920 | 1630   | 1960        | 1390 | 1000   | 750      | +0.5     | -8.5     | -29.8 |
| .32-20 Winchester H.V.      | 80       | M.C.H.P.     | 2100         | 1430 | 1090   | 780         | 365  | 210  | 160      | +1.0     | -16.2    | -58.1 |
| .32-20 Winchester           | 100      | Lead         | 1290         | 1060 | 940    | 370         | 250  | 195  | 155      | +2.8     | -30.1    | -97.2 |
| .32-20 Winchester           | 100      | S.P.         | 1290         | 1060 | 940    | 370         | 250  | 195  | 155      | +2.8     | -30.1    | -97.2 |
| .32-40 Winchester           | 165      | S.P.         | 1440         | 1250 | 1100   | 760         | 570  | 445  | 390      | +1.9     | -21.5    | -70.3 |
| .348 Winchester H.V.        | 150      | S.P.         | 2890         | 2360 | 1860   | 2780        | 1850 | 1350   | 670      | +0.1     | -5.1     | -20.2 |
| .348 Winchester H.V.        | 200      | I.B.S.P.     | 2530         | 2140 | 1820   | 2840        | 2030 | 1470   | 1090     | +0.3     | -7.1     | -23.7 |
| .35 Remington H.V.          | 150      | I.B.P.S.P.   | 2400         | 1960 | 1580   | 1920        | 1280 | 835  | 545      | +0.4     | -8.1     | -30.7 |
| .35 Remington H.V.          | 200      | I.B.H.P.     | 2210         | 1830 | 1540   | 2170        | 1490 | 1050   | 760      | +0.7     | -10.9    | -39.4 |
| .35 Remington H.V.          | 200      | I.B.S.P.     | 2210         | 1830 | 1540   | 2170        | 1490 | 1050   | 760      | +0.7     | -10.9    | -39.4 |
| .351 Win. Self-Loading      | 180      | S.P.         | 1850         | 1560 | 1310   | 1370        | 975  | 685  | 520      | +1.0     | -14.5    | -51.8 |
| .351 Win. Self-Loading      | 177      | M.C.         | 1850         | 1560 | 1310   | 1370        | 975  | 685  | 520      | +1.0     | -14.5    | -51.8 |
| .38-40 Winchester           | 180      | S.P.         | 1330         | 1070 | 960    | 705         | 455  | 370  | 290      | +2.7     | -29.1    | -93.7 |
| .38-55 Winchester           | 255      | S.P.         | 1320         | 1160 | 1050   | 985         | 760  | 625  | 565      | +2.4     | -25.1    | -81.2 |
| .44-40 Winchester           | 200      | S.P.         | 1310         | 1050 | 940    | 760         | 490  | 390  | 305      | +2.8     | -29.6    | -95.2 |
| .44 Remington Magnum        | 240      | S.P.         | 1850         | 1450 | 1150   | 1820        | 1120 | 705  | 510      | +1.1     | -16.1    | -65.2 |
| .45-70 Government           | 405      | S.P.         | 1320         | 1160 | 1050   | 1570        | 1210 | 990  | 880      | +2.4     | -25.1    | -81.2 |
| 7 mm Mauser                 | 175      | S.P.         | 2490         | 2170 | 1900   | 2410        | 1830 | 1400   | 1100     | +0.3     | -6.4     | -22.4 |
| 8 mm Mauser H.V.            | 170      | I.B.S.P.     | 2570         | 2140 | 1790   | 2490        | 1730 | 1210   | 870      | +0.3     | -6.6     | -24.7 |
| 8 mm Lebel Hi-Speed         | 170      | S.P.         | 2640         | 2260 | 1960   | 2630        | 1930 | 1450   | 1090     | +0.2     | -6.0     | -20.8 |
| .458 Winchester Mag. H.V.   | 510      | S.P.         | 2130         | 1840 | 1600   | 5140        | 3830 | 2900   | 2220     | +0.6     | -9.2     | -32.1 |
| .458 Winchester Mag. H.V.   | 500      | M.C.         | 2130         | 1910 | 1700   | 5040        | 4050 | 3210   | 2570     | +0.6     | -8.9     | -29.4 |

down to 1740 ft/sec. If the rifle sights were adjusted so that the gun would hit to the point of aim at 100 yards, and you were then to shoot at a target 300 yards away, the bullet would hit 19.2 inches too low. In order to hit the target, then, you should aim 19 inches high at 300 yards. Thus, from the information in a ballistics table, you know how to shoot at given distances. Marine snipers in Vietnam are made to memorize ballistics tables for the cartridge they are using.

Next, look at the .30-06 110 grain bullet. Since this is a lighter bullet, it moves out much faster, with a muzzle velocity of 3400 ft/sec. Because it is faster, it has a flatter trajectory. At 300 yards, the 110 grain bullet is only 13 inches too low.

Again, compare the energies of the 220 grain and the 110 grain .30-06 cartridges. The 110 gr. starts out with slightly more muzzle energy, but because its velocity falls off quicker since it is higher to begin with, at 200 yards, the 220 grain bullet has more energy than the 110 grain bullet.

Looking at the table, we can see that there are three basic types of high power rifle cartridges. The first are

7 the so called "Varmint" cartridges—firing small caliber light bullets at very high velocity, e.g., 220 Swift cartridge has a 48 grain bullet moving at 4100 ft/sec. These are very flat-shooting, extremely accurate cartridges used to fire at small "varmints" at long distances. There is only one military cartridge of this type, the .223 Remington, used in the M-16 rifle. Second are the standard military cartridges, mentioned earlier, all of which have very similar ballistics. (Compare .30-06 and 8 mm Mauser ballistics). These are capable of accurate long range firing and have sufficient man stopping power at usable ranges (after all this is what they were designed for). Third are ultra high power big game cartridges, which have more energy than military cartridges and are used for hunting big game. Examples: 7 mm Remington Magnum, .300 Winchester Magnum, and .458 Winchester magnum. These have no military or police use.

By studying these tables, you can get a good idea of the performance of various guns. They will also clear up a lot of misconceptions and wild assertions about the capabilities of some cartridges, etc.

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# Rifles

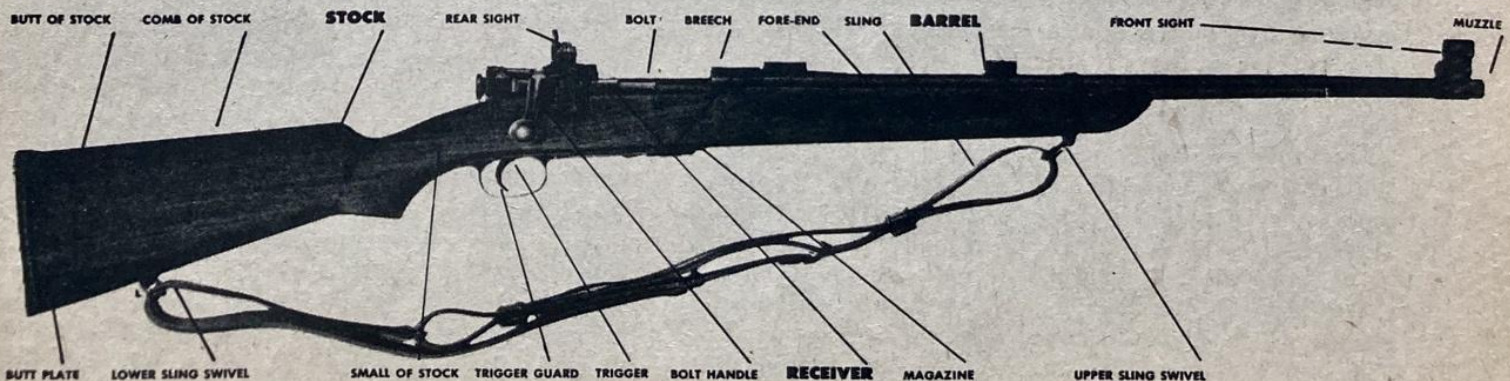
The high power rifle is used for shooting at long distances, where the high velocity and stability of the bullet mean high accuracy. Generally speaking, a high power rifle is not very suitable for use in close quarters such as in most self defense situations. For one thing, it is **too** powerful; a .30-06 bullet would penetrate the wall of your house and several walls in the neighbors' house before coming to rest. Also, a typical rifle weighs 7½ to 9 pounds, is fairly long, and is unwieldy to handle quickly.

In shooting at longer ranges, however, the rifle comes

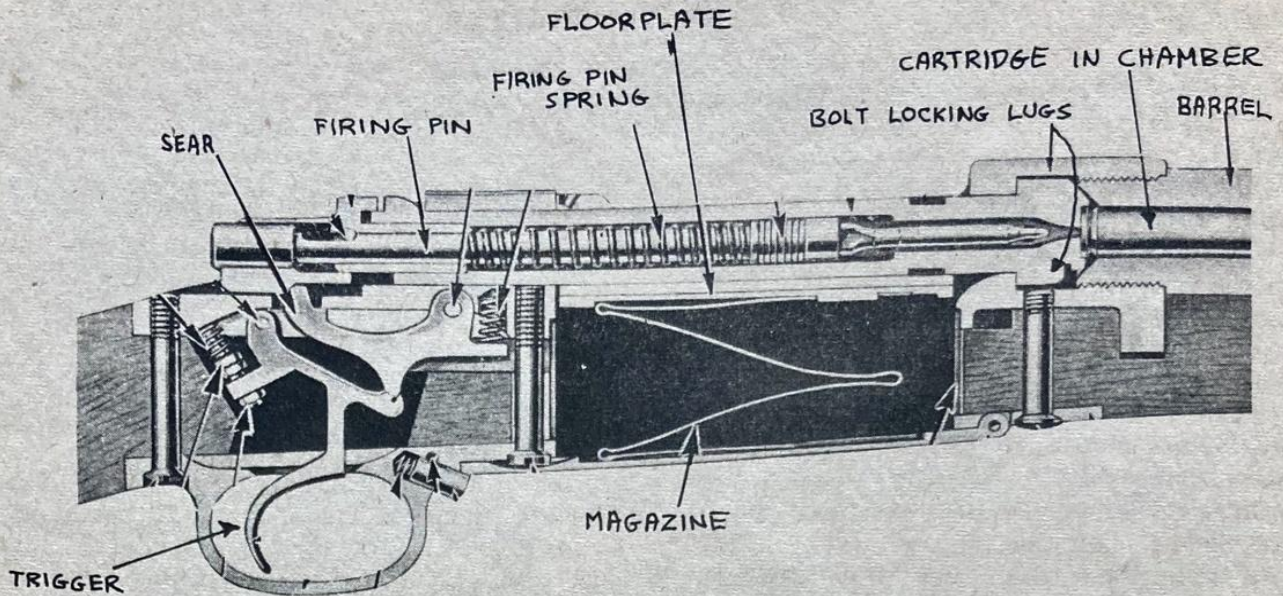
into its own. Properly designed rifles are capable of extreme accuracy. Snipers in Vietnam are reportedly scoring hits routinely at 500-1000 yards, and often at distances up to a mile.

## How a Rifle Works

The most common type of rifle is called a "bolt action" and is pictured below. The rear part of the bore of the barrel is enlarged so that the cartridge just fits in it. This is called the **chamber**, and the cartridge sits in it when it is fired.



*Parts of a typical bolt action rifle.*

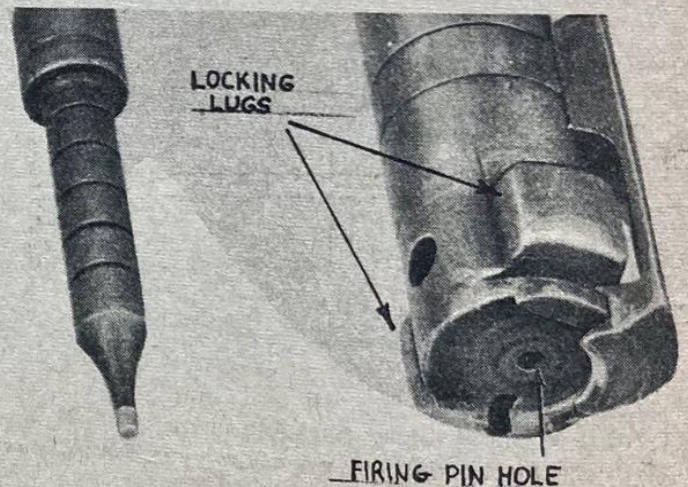


*Cross section of a Mauser type rifle action. Note the two bolt locking lugs and the firing pin inside the hollow bolt.*

The walls of a brass pistol or rifle shell have some flexibility so that as the gas pressure goes up, the walls expand to fit snugly in the firing chamber of the gun. This seals in the gas which is produced when the powder explodes and prevents it from blowing back through the gun, possibly injuring the shooter. After the bullet leaves the barrel, the pressure quickly dissipates, and the walls of the shell contract so that it is easily extracted. The case alone could never stand such high pressures were it not for the great strength built into the actions of modern guns. The empty cases are ejected, and can be used over again by inserting a new primer, powder charge, and bullet.

Since the burning gases generate such high pressure, the chamber must be closed tightly at the moment of firing, and this is done by the **bolt**, which has two locking lugs that fit into recesses in the receiver. Directly under the bolt is the magazine, where the cartridges are kept. Starting with the bolt in the rear position, when it is pushed forward, it picks up the top cartridge in the magazine and pushes it into the chamber. The bolt is then rotated  $\frac{1}{4}$  turn to the right, which engages the locking lugs and locks the bolt in position. The bolt is hollow, and inside it is the **firing pin**. As the bolt is pushed forward, the firing pin spring is compressed and the firing pin is made to stay back. When the trigger is pulled the firing pin is released; it snaps forward and strikes the cartridge primer which ignites the powder. Then, when the bolt is turned to open and pulled back, the empty case gets pulled out by a little hook called an **ejector**, which slips over the groove in the cartridge head. The bolt is then in the rear position, and pushing it forward pushes the next cartridge into the chamber, etc.

In operating the gun, you go through the following cycle: push bolt forward, rotate to close, pull trigger,



*Front end of Mauser bolt and firing pin. Note extractor, locking lugs, and firing pin hole.*

rotate bolt to open, pull back, and so on as long as there are cartridges in the magazine (which usually holds 5 or 6 cartridges).

This type of rifle has been around since the 1880's and is still very popular as a hunting rifle. Until the end of World War II it was the standard infantry rifle of most armies, and it is still seeing extensive combat use today in many parts of the Third World. But most modern armies have replaced their bolt action rifles with semi-automatic and even more recently, with fully automatic rifles.

## SEMI-AUTOMATIC RIFLES

The main difference between the semi-automatic rifle and the bolt action is that the semi-automatic utilizes some of the energy of the cartridge to open and close the bolt, so that all the shooter does is pull the trigger for each shot. This creates two big advantages over the bolt action. First, you can shoot more shots much more quickly, since the bolt is opened and closed automatically practically instantaneously. Also, many semi-automatic rifles have bigger magazine capacities. Secondly, since with a semi-automatic you don't have to move your hand, you can keep your eye lined up on the sights from one shot to the next. With a bolt action, you have to take your hand off the trigger to open the bolt, and in so doing you upset the sight pattern; you then have to line up the sights again for the next shot. This takes more time, and you may have difficulty pinpointing the target again.

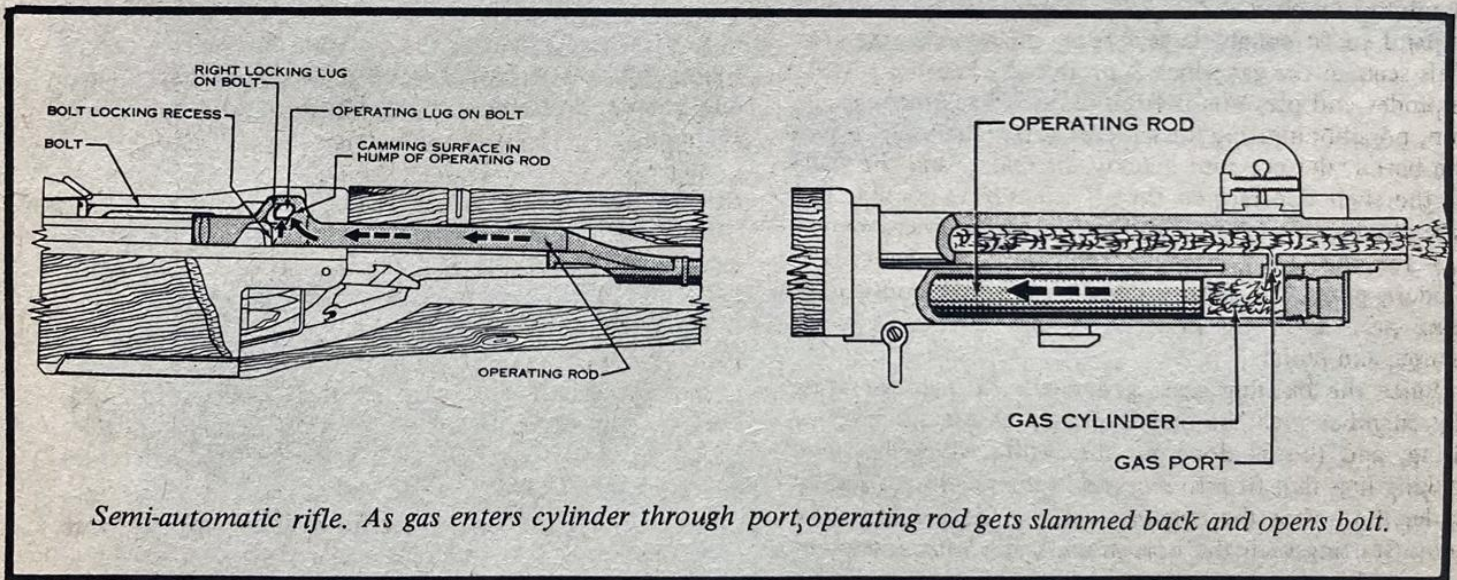
For most purposes then, the semi-automatic is preferable to the bolt action, although for **extremely** long range shooting a good bolt action is more accurate. Also, a semi-automatic rifle may experience some

feeding problems if hollow point or soft point ammo is used.

### How the Semi-Automatic Rifle Works

Basically, the semi-automatic works by tapping off some of the high pressure gas in the barrel to operate a small piston which drives a rod that pushes the bolt back. As the bolt gets slammed back, it also compresses a spring that then pushes the bolt forward. Notice the small hole in the barrel near the muzzle. When the bullet goes past this hole, some of the high pressure gas flows through this hole into the cylinder just below the barrel, slamming the piston back with great force. This piston imparts enough momentum to the operating rod to make it go all the way back, opening the bolt, extracting the case, cocking the firing pin and compressing the return spring. The return spring then closes the bolt.

To load the first cartridge into the chamber you obviously cannot utilize the energy of the fired cartridge, so that for the first cartridge the operating rod must be pulled back by hand.



### What Type of Rifle Should You Buy?

The first question is what caliber, or cartridge should the rifle be chambered for. Varmint type cartridges are probably not a good choice because although they are very accurate out to long distances, they don't have enough stopping power at long distances for man-sized targets. The extra power of the magnum cartridges isn't really necessary for use against man-sized targets, so the logical choice is one of the military cartridges. As mentioned, most of these have similar ballistics, but there is a good case to be made for buying a rifle chambered for the .30-06. Ammunition is much more plentiful, and a great variety of commercial ammunition is available. For example, you can buy six different commercial .30-06 cartridges, from 110 grain to 220

grain bullets, plus excellent U.S. Army surplus ammo, as well as armor piercing ammo. In 8 mm Mauser, on the other hand, there is only one type of commercial cartridge available, and much of the military surplus ammo may be corrosive primed. Also, new import restrictions forbid the importation of any more foreign surplus ammo, so that when current stocks get scarce, prices will shoot up. It also makes sense to standardize a caliber among a group of people, so that the same ammunition can be used.

However, you should keep in mind that many rifles for foreign cartridge are cheaper, and their ballistics are nearly identical to the .30-06, provided you have good quality ammunition.

*number and the arsenal of manufacture are stamped on top of the receiver.)*

While there are many different brands of rifles, most good bolt action rifles are either built around the model 1898 Mauser or are copies of this famous rifle. This applies to military rifles such as the U.S. Springfield and Japanese Arisaka as well as to commercial high quality rifles, such as are made by Winchester Remington.

When buying a bolt action rifle you can buy as much rifle as you want, spending as little as \$30 and going up to \$250.

**RECOMMENDED TYPES** (all prices are for guns in excellent or new condition).

1. \$30 to \$50: Model 1895 and 1898 Mausers in European calibers such as 8 mm, 7.65 mm, and 7 mm Mauser, plus model 1914 Enfield in .303. These are all very good guns, and can be quite accurate. The standard sights are very poor for accurate shooting, however. Big disadvantage is European calibers. Beware of late war production (1945) Arisakas and 98 Mausers, when quality deteriorated greatly.

**NEW 1903/A3**



**SPRINGFIELD RIFLE in .30-'06 CAL.**

2. \$50 to \$65: Any of the following military rifles, all .30-06:

Model 1903 Springfield,  
Model 1917 Enfield,  
Model 1898 Mauser (in caliber .30-06)

These are the best **military** bolt actions made. Sometimes they are capable of extremely high accuracy, but this is a matter of luck, although all specimens are reasonably accurate. The 1903A3 Springfield has an adjustable rear sight; the others have relatively poor sights. Excellent value for the money.

*(NOTE: Do NOT buy a Springfield rifle made at Springfield arsenal with a serial no. less than 800,000 or one made at Rock Island arsenal with serial no. less than 285,000, because models prior had a brittle receiver, which could crack with dangerous results. The serial*

3. \$75 to \$125: Lower priced commercial sporting rifles, sporterized Springfields and Mausers. In this price range you will be getting a rifle a little more accurate, with a stock that is easier to hold for accurate shooting, adjustable sights, and adjustable, lighter trigger pull. Also, it is very easy to mount a telescopic sight on such rifles, whereas to mount a scope on a military rifle requires some machining, that will cost around \$25 in a gun store. So if you plan to mount a scope on a rifle, it may actually be cheaper to buy a sporter or already sporterized military rifle.

4. \$125 to \$175: Better quality bolt action rifles, such as the Winchester Model 70, Remington Model 700, Browning bolt action, Ruger Model M70. These are very accurate rifles, although cheaper sporters will sometimes match them.



**M17 ENFIELD in .30-'06 caliber**

5. \$100 to \$250: For the ultimate in accuracy, try a Remington .30-06 model 40XB with a heavy barrel—this duplicates the rifle now being used by Marine snipers in Vietnam.

**RECOMMENDED SEMI-AUTOMATIC RIFLES**

In semi-automatic rifles there are really only two recommendations: the M-1 Garand, in .30-06, and the Belgian FN Model 1949, in .30-06 or 7 mm Mauser.

The Garand was the standard U.S. rifle from 1936 to 1954 and is still used by the National Guard. It uses 8 round preloaded clips, which can be quickly inserted. For a semi-automatic it is very accurate, and very reliable. It sells locally for \$100 to \$135. Try not to buy one with a "welded receiver," which will show up as a small line of pockmarks on the outside. These were assembled out of spare parts and receivers chopped in two by the U.S. government, at the behest of big gun manufacturers.

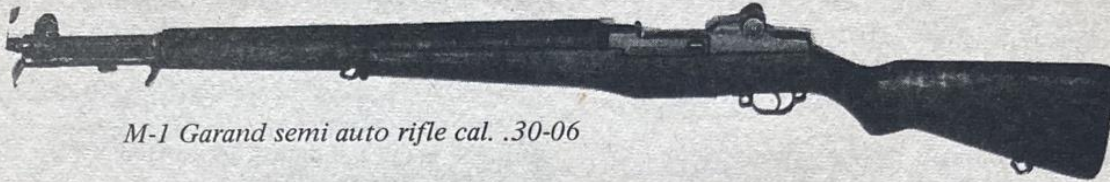


*Two 8 mm model 98 Mausers. Bottom one is sporterized version made out of military rifle shown at top.*

The FN Model 49 is also an excellent semi auto, and is generally available a little cheaper—around \$80 to \$90 7 mm and around \$100 in .30-06.



#### F.N. MODEL 1949 SEMI-AUTOMATIC RIFLE



*M-1 Garand semi auto rifle cal. .30-06*

## THE M-1 CARBINE

### M-1 Carbine

The M-1 carbine is neither a high power rifle nor a handgun—it is in a class all by itself. It is small (5½ pounds), short, semi-automatic, and fires a special cartridge much smaller than the .30-06.

**For these reasons it is an excellent weapon for self defense.**

While it does not have the power or accuracy for very long range shooting, it is amply powerful and accurate at 100 to 150 yards. Because it is small and short, it can be handled quickly. Another advantage is that it has removable clips, which can hold 30 rounds. You can keep several on hand fully loaded, which gives the carbine a great deal of firepower. Since its sights are

similar to a regular rifle, it is a good weapon on which to learn rifle marksmanship.

Good quality U.S. surplus carbine ammo is available for ten cents a round and commercial ammo with soft point bullets is also available. **Highly recommended for self defense.** Current price is \$90 to \$100. U.S. surplus, plus two commercial versions made by Universal and Plainfield are available.

### M-1 TYPE .30 CAL. CARBINE



*M-1 carbine is widely used in Vietnam*

# Handguns

Handguns are strictly short range weapons. They are difficult to aim, and they shoot cartridges much less powerful than rifle cartridges. For most people, 25 yards would be a maximum range for reliably hitting a man-sized target.

With these disadvantages, why would anyone want a handgun? The answer is simply their size. No other type of gun can be carried in a coat pocket, a purse or a glove compartment, and no gun can match a handgun for the speed with which it can be brought into use. (Note:

*while pointing out the concealability of handguns it should be noted that it is illegal in California to carry a handgun in a concealed state. See section on gun laws.)*

Militarily, handguns are used very little, but they are the main armament of domestic police, who are very adept at using handguns, and often hit young blacks in the back at 50 yards.

There are two basic types of handguns: revolvers and automatic pistols.

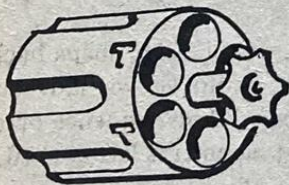
## Revolvers

A revolver has a revolving cylinder, which has 5 or 6 separate chambers, into which the cartridges fit. As the cylinder revolves, one chamber at a time lines up with the barrel, and the cartridge is then fired. Pulling the trigger for the next shot rotates the cylinder so the next cartridge lines up with the barrel. After all the shots are fired, the cylinder is swung out, the empty cases are ejected, and new cartridges are loaded in the chambers.

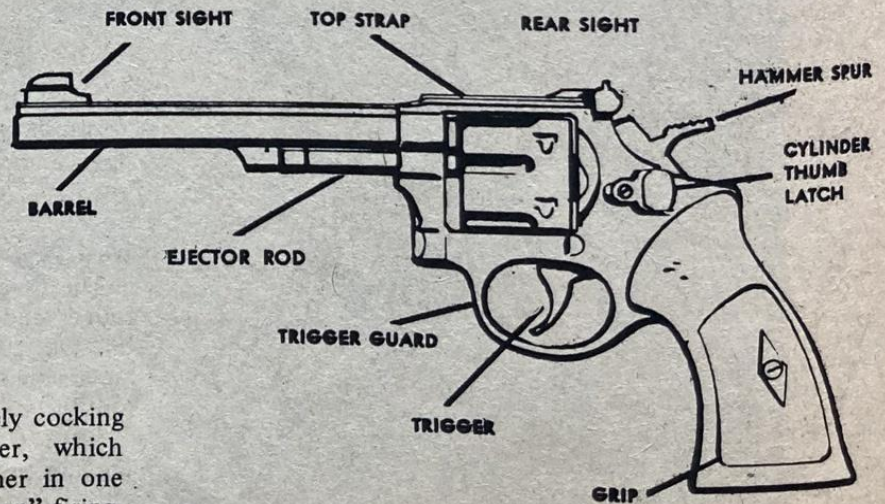
Modern revolvers are both "double action" and "single action." At the rear of the revolver is a hammer, which can be cocked back. When the hammer is cocked, it can be reloaded by a very light pull on the trigger. The hammer then snaps forward, pushing the firing pin into the cartridge primer. When the gun is fired this way, where the hammer is first cocked and then the trigger is pulled, it is called firing "single action."



*Double action revolver with swing out cylinder*



**THE CYLINDER**



The gun can also be fired without separately cocking the hammer, by just pulling the trigger, which automatically cocks and releases the hammer in one smooth operation. This is called "double action" firing. Double action shooting is much faster since the hammer isn't cocked separately, but it makes pulling the trigger harder, so it is not quite as accurate as single action firing.

### Automatic Pistols

An automatic pistol is really a small version of a semi-automatic rifle, where some of the energy of the cartridge is used to operate the bolt, and all you do is pull the trigger for each shot. Actually, instead of a bolt, most auto pistols have a "slide" which completely encloses the barrel and which slides back after the gun is fired, ejecting the empty case and cocking the hammer. The slide then snaps forward, chambering another round (see picture). Automatic pistols have removable magazines which fit into the handgrip and hold from seven to 14 rounds of ammunition. With extra loaded

magazines on hand, which can be inserted into the gun in a couple of seconds, it is possible to keep up a very high rate of fire. In most automatic pistols, the slide and barrel are locked together at the moment of firing, just as in a bolt action rifle. When the cartridge is fired both barrel and slide recoil backwards as a unit about  $\frac{1}{4}$  inch. By this time the bullet is out of the barrel. The barrel at this point stops moving backwards and unlocks from the slide, which keeps moving backwards and ejects the fired case. This type of pistol is called "short recoil locked breech pistol," and is the most common type.

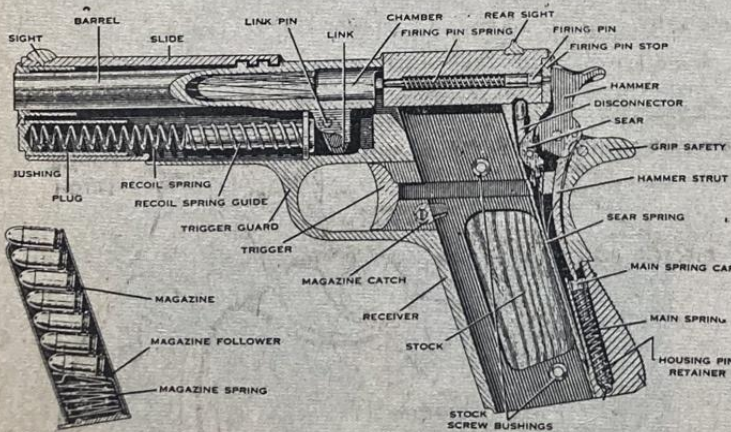
### Automatic vs. Revolver

Automatics and revolvers each have their advantages. The automatic has greater firepower (more shots can be fired quickly). But, because each cartridge has to go from the magazine up a ramp into the chamber, it is somewhat susceptible to jams, especially if soft point ammo is used where the soft lead tip may catch on the ramp. Also, if you have a misfire (the cartridge does not go off), the slide must be pulled back by hand to clear the unfired cartridge and chamber a fresh cartridge. This takes valuable time in a self defense situation.

If you have a misfire with a revolver, you simply pull the trigger again, which will rotate the next cartridge in line with the barrel. (Actually, with modern commercial ammunition, misfires are extremely rare). The revolver, on the other hand, takes longer to reload. Conclusion: The automatic has greater firepower, the revolver has slightly better reliability. The military uses automatics, while almost all police, undercover agents, private detectives, etc., use revolvers, since 100% reliability is of utmost importance to them.



Firing sequence with auto. pistol. Slide snaps back and forwards after firing. First photo shows slide coming back immediately upon firing. Whole sequence takes less than 1/10 second. Note that hammer is left cocked.



*Internal parts of Colt .45 auto pistol*

### What Type of Handgun Should You Buy?

The first step, as with the rifle, is to decide on the caliber and cartridge type. While there are dozens of different automatic pistol cartridges available, only three are recommended: 9 mm Luger, .45 ACP (Automatic Colt Pistol), and .38 Super. Why?

First of all, any cartridge smaller than these does not provide enough stopping power. If you use a gun in a self defense situation it probably means your life or someone else's life is in imminent danger, and you want a gun that will stop the assailant. There are many cases in which people have been hit by various small caliber guns and have kept right on coming.

There are a few other large caliber automatic pistol cartridges, such as 9 mm Bergmann, but they are scarce and ammo is hard to get, so they are not recommended.

The **9 mm Luger** (also called 9 mm Parabellum) is in very widespread use worldwide, being the standard pistol cartridge of all NATO countries except the U.S. Standard load is 350 to 375 footpounds; can be handloaded somewhat hotter. Military surplus ammo readily available, as is standard commercial metal jacketed ammo. In addition, you can buy soft point ammo which greatly increases stopping power. Has moderate recoil. Highly recommended.

The **.45 ACP** is the U.S. military pistol cartridge. Shoots a slow moving, heavy bullet with about 350 footpounds of energy. Ammo is widely available, and fairly cheap. Recommended, but recoil is more severe than 9 mm, often making it hard for beginners to shoot accurately.

The **.38 Super**, with 470 footpounds of energy, is the most powerful automatic pistol cartridge. However, this is not a military cartridge, and only metal-jacketed commercial ammo is available. The potential of the cartridge can only be realized with soft point bullet handloads, which are very effective. Recommended, if you reload.

#### Automatic Pistol Bullets

In handguns, which have comparatively weak cartridges, bullet design is critical for stopping power. Standard automatic commercial ammo has a metal jacket, which allows for almost no expansion. There is some ammo made which has a partial jacket and a soft point or hollow point. The best automatic pistol ammo is made by Super Vel; it has only recently been made available in gun stores, although it has been available to police departments for two years. It uses a small hollow point bullet moving at high velocity. For example, the 9 mm Super Vel cartridge uses a 90 grain hollow point bullet moving at 1550 ft/sec, compared to the standard load of a 125 grain full jacketed bullet moving at 1150 ft/sec. The stopping power of the Super Vel load is probably twice that of the standard load.

On the other hand, if the bullet must penetrate something like a car door, you would want the fully jacketed bullet.

Note: Some automatic pistols, especially Nazi late war models, will not reliably feed soft point ammunition. Check before you buy.

#### Revolver Cartridges

Only two revolver cartridges are recommended: the .38 Special and the .357 Magnum. As in the case of pistols, it is foolish to get a revolver that shoots a cartridge less powerful than these.

The **.38 Special** is the most popular handgun cartridge in the U.S. and is probably used by 75% of U.S. pigs. About 375 footpounds, in the standard heavy load, and ammo is very widely available. Caliber is a misnomer—bullet diameter is actually .357. It is



*Super Vel handgun cartridges with hollow point bullets*

sometimes called the .38 Smith and Wesson Special, and is not to be confused with the .38 Smith and Wesson, which is an obsolete cartridge.

The **.357 Magnum** cartridge has a case identical to the .38 Special, but is one-eighth of an inch longer. It is loaded to almost twice the energy of the .38 Special. A .38 Special cartridge is fired in a .357 Magnum revolver, but cannot be done vice versa. This makes .357 guns desirable, since you have a great variety of .38 special and .357 magnum loads available.

There are two larger magnum cartridges available—the .41 Magnum and the .44 Magnum, which have 1000 and 1150 footpounds of energy respectively. The problem with them is that you have to be very experienced to get off accurate successive shots, because recoil is so severe. They are definitely **not** recommended for beginners, although in the right hands they are very effective.

In addition, there is another effective revolver caliber, the .45 Colt, (also called .45 Long Colt) which has about 400 footpounds of energy, with moderate recoil. Guns for it are somewhat scarce, however, and some of them are collectors' items which raises their price.

Standard revolver ammunition comes with cast lead bullets, which provide some expansion. Super Vel also makes revolver cartridges in .38 Special and the Magnum calibers. In a revolver, you can use any shape of bullet, since there is no possibility of jamming. In fact, there are so called "wad cutter" bullets which have a **flat** nose. They are very accurate, but must be loaded to lower velocities.



## SOME RECOMMENDED TYPES OF AUTOMATIC PISTOLS:

1. **Browning Hi-Power** Cal. 9 mm. One of the best pistols made: magazine holds 14 shots and mechanical design is among the strongest, making it safe to fire the hottest handloads. Cost new is \$104. Available used for \$80 to \$100 depending on condition. **HIGHLY RECOMMENDED.** Even late war models seem to be reliable and well made.



**Browning H.P., 9mm, 13 round magazine.**

2. **Walther P-38:** Standard German World War II pistol, caliber 9 mm. Good design; has double action trigger which allows you to carry the gun with a cartridge in the chamber and the hammer down. It then only takes a pull of the trigger to fire it. (Other automatics require you to manually cock the hammer before firing the first shot). Has an 8 shot magazine. Well made, but look out for late war models which deteriorated greatly in quality. Price is \$70 to \$125, depending on age and condition. Huey Newton's favorite handgun. **RECOMMENDED.**

### WALTHER P38



**CAL. 9mm PARABELLUM  
(9mm Luger)**



**CAL. 9mm PARABELLUM**

### **RADOM M35 AUTO**

A durable modification of the Colt/Browning locked-breech system a limited standard sidearm to German forces during WW II. Rugged and reliable—chambered for 9mm Parabellum. Patterned after Colt .45 M1911.

3. **Radom, model P-35.** Polish army pistol, very similar to Browning Hi-Power. Its main difference is a smaller magazine capacity of 8 shots. Its comparatively low price (\$55 to \$75) and strong Browning type action makes this perhaps the best buy in an automatic pistol. **HIGHLY RECOMMENDED.**

4. **Luger (P-08)** German World War I pistol. While well made, this gun is more susceptible to jamming than other types. The fact that it is a collectors' item has driven the price up to the point that it is a poor buy for self defense purposes.

5. **Astra Model 600:** Spanish pistol, caliber 9 mm Luger. Very well made, 8 shot magazine, and cheap: current price is \$50 to \$60.

Its big disadvantage is that it has an internal hammer—which cannot be cocked by itself, but can only be cocked by pulling the slide back. Therefore, it is unsafe to carry with a cartridge in the chamber, since it must be carried with the hammer cocked and if the sear (which holds the hammer back) were to break, the gun could go off. The only really safe way to carry a pistol with an internal hammer is with a loaded magazine but an empty chamber. Then, before the gun can be used, the slide has to be pulled back, which takes valuable time in an emergency situation. Also, this gun has an unusually heavy trigger pull, making accurate shooting more difficult. Not recommended if you can afford to spend a few more dollars, but it is well made.



**This 9mm Astra Model 600 (Model 1943) is chambered for the Luger cartridge**

6. **Colt .45, Model 1911.** Standard American pistol for almost 60 years. Well made, reliable, parts readily available. Caliber is .45 ACP (Automatic Colt Pistol). 8 shot magazine. The main problem: many people find it very difficult to shoot accurately because of heavy recoil, particularly people with weak wrists. Highly recommended, but not for beginners. You should not buy one if you have not shot pistols before. Price varies from \$75 to \$125 for regular models, and up to \$175 for "National Match" models which have special features for target shooting accuracy. This gun is also made in two other calibers: 9 mm Luger (called the Colt Commander), and .38 Super. These are both recommended also. .38 Super ammo is not as readily available, but this is the most powerful automatic pistol cartridge.



*This pistol has a special adjustable rear sight*

7. **Smith and Wesson Model 39:** Cal. 9 mm Luger. This is a highly desirable pistol, combining many good features: the strong Browning type basic design, and the double action trigger of the P-38. Has an 8 shot magazine, plus the best sights on any automatic pistol, fully adjustable for windage and elevation. Although the listed retail price is less than \$110, this pistol is for some reason very scarce, and when you do find one, the asking price is generally over \$150. **HIGHLY RECOMMENDED**, if you have the bread.

Supposedly an all steel version of the model 39 is to be widely available after Jan. 1, 1971, and will retail for about \$108.

7. **Others:** There are many imitations of the Colt .45 made in Spain and Latin America. Two highly recommended ones are the LLAMA and the STAR, both Spanish, which sell for around \$80. The Llama is also available in .38 Super caliber, and the Star is available in 9 mm.



## REVOLVER TYPES

### Recommended Revolver Types

Modern revolvers have a "swing out cylinder" that swings outwards when you push a catch on the side of the gun. This is the type to get, because it makes reloading much quicker than with other, older types of revolvers. Also, while there are revolvers made that are single action only, for self defense you should get a gun that is both single and double action.

Double action revolvers with swing out cylinders come in both "small frame" and "large frame" types. The small frame type is designed to be concealed—it will easily fit into a pocket, purse, or shoulder holster. It has a five shot cylinder, a short two or three inch barrel and a small handgrip. In .38 Special caliber, this is by far the most powerful **concealable** handgun, much more effective than the various small caliber pocket automatics. Its disadvantage is that it is very hard to shoot accurately, but this type of gun is mostly used at very short ranges such as across a room, and at such distances, it is accurate enough.



*Charter Arms 5 shot .38 Special*

**Large frame revolvers:** The large frame revolver has a six shot cylinder, a heavier, larger and stronger frame, and usually a longer barrel. While less concealable, it is also more accurate. This is the type carried by perhaps 95% of the U.S. police forces. .357 Magnum revolvers come only in the "large frame" type, since they have to be more heavily constructed than the .38 Special. Barrel length is usually two to six inches. A four inch barrel is a good choice for all around use, and is the most common. Actually, a large frame .38 or .357 with a short barrel is concealable, although considerably more bulky than the small frame types. The standard rig for FBI agents is a .357 Magnum with a 2½ inch barrel, carried concealed in a shoulder holster. The more expensive revolvers have rear sights that are adjustable for windage and elevation, while cheaper models have fixed, non adjustable sights.

#### RECOMMENDED MODELS:

**Small Frame, .38 Special:** Excellent models of this type are made by Colt, Smith & Wesson, and Charter Arms—these are definitely the best pocket, concealable guns. Cost is \$75 to \$100, with the charter arms slightly cheaper than Colts and S&Ws. Barrel length ranges from 1¾ inches to 3 inches.

**Large Frame, .38 Special:** Any .38 Special made by Smith and Wesson or Colt is excellent. The cheapest models are the S&W Military and Police and Colt Police Positive Special. They have fixed non adjustable sights, and they cost about \$70 to \$100 depending on age. Other S&W and Colt models run more, and have the advantage of adjustable sights.

There are also West German, Spanish and Latin American imitations of Colts and S&Ws. The West German ones often seem to be poorly fitted and are not recommended. The best is probably the Spanish Llama, which sells for around \$65, and is recommended. The German ones often seem to be poorly fitted and are not recommended. The best is probably the Spanish llama, which sells for around \$65, and is recommended. The S&W military and police, selling for about \$80 is also highly recommended.

**Magnums:** Double action magnum revolvers with swing out cylinders are made by Smith and Wesson and Colt only. They are all excellent guns, very well made, with adjustable sights; they are also quite expensive. The cheapest .357 Magnum is the Colt Trooper, which retails for \$135. Other models go up in price, for example the Colt Python .357 sells for \$175. The .41 and .44 magnums, made only by S&W are also in this price range.

#### Other Revolvers

Two other good revolvers show up at gun shows: S & W and Colt World War I Model 1917 revolvers, chambered for .45 ACP and the .45 Long Colt. They are rather bulky, but can be picked up sometimes for \$50 to \$60.



Colt Python, .357 Magnum, also fires .38 Special. One of the most powerful handguns around, rapidly becoming a pig favorite.



COLT, Cobra, Revolver  
.38 Special,



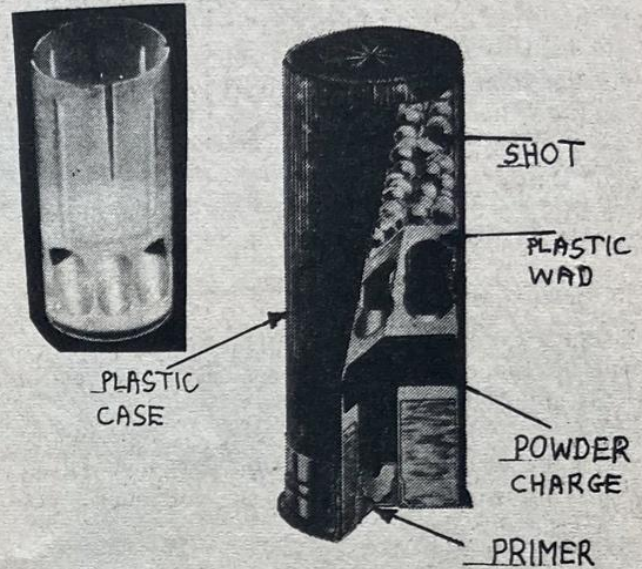
FBI agents carry .357 Magnum revolver with 2½ inch barrel.

# Shotguns

Instead of firing a single spin-stabilized bullet, a shotgun shoots out a number of round lead pellets that scatter outward as they leave the barrel. Because of this scattering effect, you don't have to pinpoint the target in order to hit it—since you are shooting a good number of pellets, the chances of hitting the target are much greater. Shotguns are used for hunting many types of animals and birds, especially flying birds which would be almost impossible to hit with a single bullet. Loaded with large pellets they are used for deer hunting, and are extremely effective self defense weapons.

## Shotgun Shells

The figure shows a shotgun shell. The case is usually made of plastic with a brass head, which has a primer and a flashhole just like a rifle or pistol cartridge. The lead pellets, called "shot," sit inside of a plastic "shot collar" which sits on top of the powder charge. When the gun is fired, the primer is pierced and ignites the powder, just as in a rifle cartridge. The high pressure gases push the entire shot collar with the shot out of the barrel. The plastic collar drops off a few feet past the barrel, and the shot keeps on going. The collar serves two purposes: it is made to fit the barrel tightly, so that it provides a gas seal, and it keeps the soft lead pellets from being deformed by being pressed directly against the barrel. The barrel is smooth inside, with no rifling. The empty plastic cases are ejected after firing, and can be reloaded again, just like brass rifle and pistol cases, although they will not withstand as many reloadings.



*Cross-section of a shotgun shell and one-piece plastic wad.*

## Shot Size and Gauges

The size and number of pellets in a shotgun shell varies considerably. The smallest size shot is no. 9 Birdshot, which is about 1/16 inch in diameter. A no. 9 shell may contain 700 of these tiny pellets. The biggest size shot is called 00 Buckshot (pronounced "double oh"). A load of this consists of nine to 15 pellets, each 1/3 inch in diameter. Because of the great number of loads available, a shotgun is very versatile and can be used for hunting anything from small birds to deer, depending on shot size used.

A shotgun is even more versatile through the use of the rifled slug load, which instead of having a number of pellets consists of one large projectile called a slug, which may weigh up to 1 1/8 oz. Since the shotgun barrel is not rifled, the slug cannot be stabilized by spinning. Instead, it gets its stability from the fact that most of its weight is in the front, with a hollowed out base (see diagram). This is not as stable as a spinning bullet, so that a rifled slug is not nearly as accurate as a rifle bullet. It is sufficiently accurate, though, out to 75 to 100 yards.

| SHOT   |                 |                          | BUCKSHOT |                 |                          |
|--------|-----------------|--------------------------|----------|-----------------|--------------------------|
| NUMBER | DIAM. IN INCHES | APPROX. PELLETS IN 1 OZ. | NUMBER   | DIAM. IN INCHES | APPROX. PELLETS IN 1 LB. |
| ● 12   | .05             | 2385                     | ● 4      | .24             | 340                      |
| ● 9    | .08             | 585                      | ● 3      | .26             | 300                      |
| ● 8    | .09             | 410                      | ● 1      | .30             | 175                      |
| ● 7½   | .09½            | 350                      | ● 0      | .32             | 145                      |
| ● 6    | .11             | 225                      | ● 00     | .33             | 130                      |
| ● 5    | .12             | 170                      |          |                 |                          |
| ● 4    | .13             | 135                      |          |                 |                          |
| ● 2    | .15             | 90                       |          |                 |                          |
| ● BB   | .18             | 50                       |          |                 |                          |

Gauge refers to the diameter of the barrel. The most common are 12, 16, and 20 gauge. 12 gauge is the largest of these, and it is also the most popular and easily available. This is the size to get. 20 gauge is also fairly popular, but 16 gauge is quite rare and ammunition may be hard to get, so you should NOT buy a 16 gauge shotgun, even if it is a bargain. Shotgun shells also come in two different lengths: 2 3/4 inches, and 3 inches (the latter are called Magnum and carry more pellets). For example the three inch 00 Buck load has 15 pellets and the 2 3/4 inch load has 12 pellets. Some shotguns will take only the standard 2 3/4 inch load, while others will take both the 3 inch and the 2 3/4 inch shells.

### Choke and Range

If you shoot a shotgun at a large piece of paper at 40 feet and 100 feet, you will find that the pellets are much closer together at the shorter distance, since they spread further and further apart as they go from the barrel. At some distance the pellets will be spread so far apart that they will no longer be effective against the target for which they are intended.

The rate at which the shot spreads out (which determines the effective range of the shotgun), can be varied. For hunting high flying geese and ducks, you

### Self Defense Shotguns

For self defense purposes, 00 Buckshot is generally recommended, preferably the 12 gauge 12 pellet load or the 3 inch magnum 15 pellet load. Since the velocity of the pellets falls off rapidly, buckshot is useful at relatively short ranges—up to about 40 yards, which is only a little further than hand gun ranges. Within this range, you want the shot to spread out as fast as possible, in order to take advantage of the fact that a pattern of pellets is produced. For this reason, the self defense shotgun should have a short 18 to 20 inch barrel with cylinder bore—i.e., no choke at all.

Within 40 yards, this type of shotgun, loaded with buckshot, is extremely effective. The firearms designer W.H.B. Smith calls it “the deadliest close quarters firearm ever designed.”

Each of the pellets has over 200 footpounds of energy, and even one could be lethal. Properly trained, a person can fire three or four consecutive shots in less than two seconds, resulting in 48 pellets being shot against the target. Thus the firepower of the shotgun is vastly superior to any handgun, and if available, it should always be used over a handgun.

The lethality of this weapon should be realized. A hit at close distances with 00 Buck produces vicious wounds, and is usually fatal.

This type of short barreled shotgun is called a “riot gun” and is in widespread use by police. Every California Highway Patrol car has one sitting on the dashboard. It is with this type of gun that the Alameda County Sheriffs department special death squad murdered James Rector.

would want the shot to stay together for a long distance. For close quarters self defense, you want the shot to begin to spread out very quickly.

Two chief factors determine how the shot will spread—barrel length and “choke.” The shorter the barrel, the faster the shot will spread; the longer it is, the closer it will stay together. For fowl hunting, 30 inch barrels are not uncommon. For self defense and police use, 18 to 20 inch barrels are common, 18 inches being the minimum legal length for a shotgun barrel. “Choke” refers to a constriction in the last couple of inches of muzzle end of the barrel. If the diameter of the barrel is constricted a small amount (thirty to fifty thousandths of an inch) near the barrel, this will tend to keep the shot together more. The amount of choke is indicated by the terms: full choke, modified choke, improved choke, and cylinder bore. Full choke is the greatest amount of choke; cylinder bore is the least—actually it means no choke, or reduction in barrel diameter, at all. All shotgun barrels have their choke stamped on them, such as “full,” “modified,” etc. Some shotguns have adjustable chokes, which vary the amount of choke by turning a ring at the muzzle end of the barrel.



12 gauge shotgun with 18-inch barrel, loaded with 00 buckshot—“The deadliest close-quarters firearm ever designed.”

In addition to buckshot, two other loads are used with riot guns. Small birdshot, such as no. 9 or no. 8 is sometimes used by police as a "non lethal" riot load. Theoretically, the tiny pellets will not penetrate very deep and will not cause death. At very short ranges, of course, this load can be lethal, and can cause very serious wounds and blindness if a person is hit in the head, as happened to several persons during People's Park battles.

Another effective self defense load is the rifled slug, which gives the shotgun a tremendous versatility, making it possible to extend the effective range to 100 yards. While it is not accurate as a high powered rifle, it is possible to shoot slugs into a 5 inch circle at 100 yards. The 12 gauge slug, a 1 1/8 oz. hunk of soft lead moving at 1600 ft/sec is a truly awesome projectile, with a killing power probably greater than that of any other small arm short of the elephant guns.

Most shotguns have only a "bead" at the muzzle end of the barrel for aiming. This type of sight is not suitable for accurate slug shooting—rifle type sights are required. It is possible to either mount rifle type sights on a shotgun, or to buy a special "slug gun" designed specifically for shooting rifled slugs, (usually for deerhunting) which already has rifle sights on it.



*Adjustable shotgun choke. Choke is varied by turning knurled ring.*

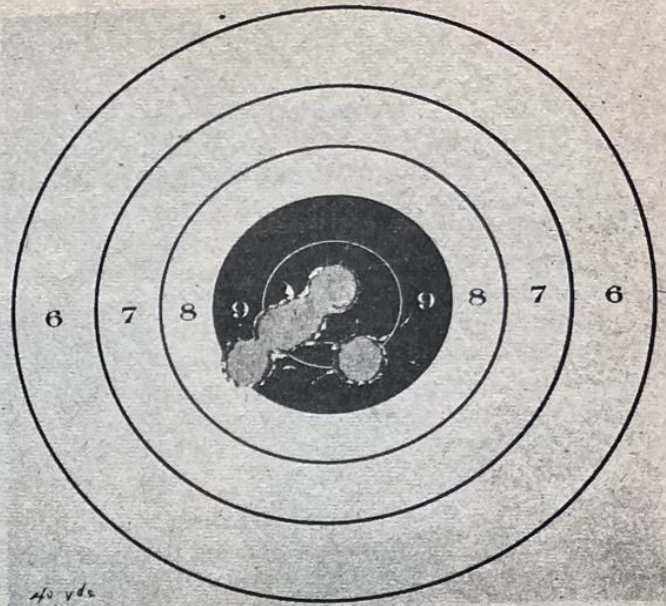
### Shotgun Types

Although there are many types of shotguns in wide use, only two are recommended: the pump action and the semi-automatic.

The pump action stores its shells in a "tubular magazine" one behind the other, below the barrel. Around the magazine tube is a piece of wood called the "forearm" which slides back and forth. The gun is operated by a pumping motion on the forearm: after the trigger is pulled and the gun is fired, slamming the forearm back will eject the fired case; slamming it forward chambers the next cartridge from the magazine and cocks the firing pin. This motion can be done very quickly; it is much faster than operating a bolt action, since you don't have to shift position of your hands—just slam the forearm backwards and forwards.

Pump shotguns are simple and very reliable. Just make sure that you slam the forearm vigorously—if you push it back and forward gently, you might get a jam or the gun might not feed properly. The characteristic "thump" of the forearm being worked also has a good psychological effect against would-be assailants.

The magazine on pump shotguns usually hold five to seven shells.



*A visual demonstration of the accuracy of rifled slugs fired in a special "slug gun." Here is a 1 3/4-inch group of five slugs at 40 yards*

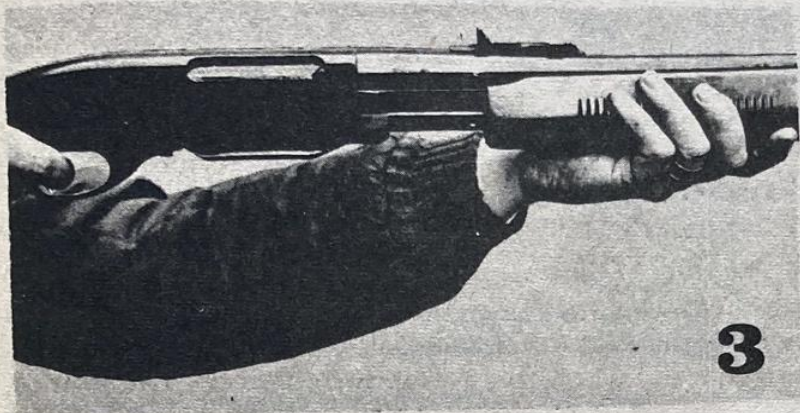
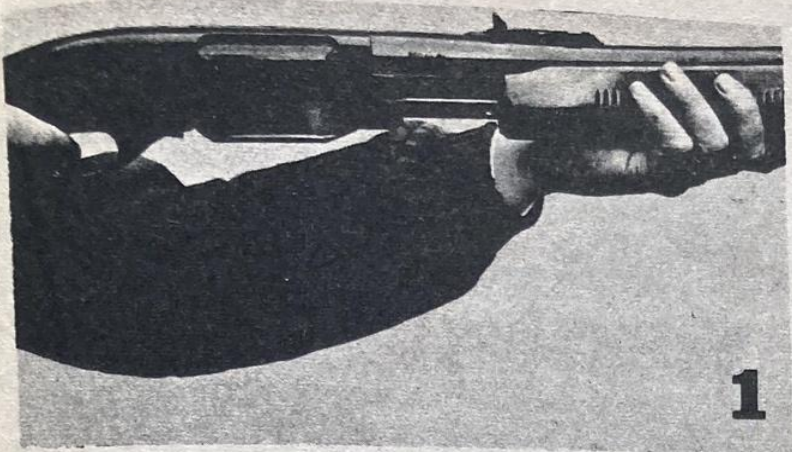
The semi-automatic shotgun is very similar to the pump action, except that it utilizes some of the gas pressure to work the action backwards and forwards, requiring the shooter to pull the trigger only. (A few automatic shotguns don't use gas pressure, but utilize some of the recoil energy, like the automatic pistol.) The advantage of the semi-automatic is that it is easier to operate; this could be a very important fact in a self defense situation, particularly for a small person, for whom the effect of the high recoil could be especially disorienting, making it difficult for the person to work the pump action again to get off a second shot quickly. On the other hand, the automatics have a smaller magazine capacity than do the pump guns—usually 4 or 3 shots. They are also more expensive.

In the hands of an experienced shooter, who can handle the pump gun as fast or faster than the automatic, the pump gun is probably preferable. Police forces generally use pump guns, although some automatics are also used.

Other types of shotguns are not recommended, because they are too slow in getting off successive shots. Two such types are the bolt action and the double barrel. In the latter gun, each barrel must be separately loaded for each shot.



*Rifle slug sectioned to show weight distribution.*



*In operating a pump gun, your non-shooting hand remains on the forearm, merely slamming it back and then forward again to achieve unlocking, extraction, ejection, cocking, feeding and locking. These pictures show the pump as it begins its backward travel, reaches its rearmost position and then comes forward, ready for firing.*

### Specific Models

The recommended gun, then, is a 12 gauge, short barreled pump action or automatic loaded with 00 Buckshot. Preferably, it would have rifle type sights for use with rifled slugs. This type of gun does have terrific recoil, and small people may prefer a 20 gauge pump. You should try a 12 gauge first, though.

Pump guns are inherently very reliable, and almost any brand made is adequate. One of the best for self defense is the High Standard Riot Gun, equipped with a special seven shot magazine and optionally equipped with rifle type sights. The price new is about \$120; you might find a used one for under \$100. In California one of the best buys is available at White Front discount stores, where the Mossberg Model 500A is selling for about \$75. Used pumps are available for somewhat less.

Often you will find a good shotgun, but with a long barrel. In this case, it is easy to saw the barrel off yourself. You need a hacksaw, metal file, emery paper and some blueing paste, which is available in gun shops. Saw the barrel down with the hacksaw (18 inches is legal limit) measured by sticking a rod all the way down the barrel with the bolt closed. Then take the file and file off the end of the barrel until it is smooth and

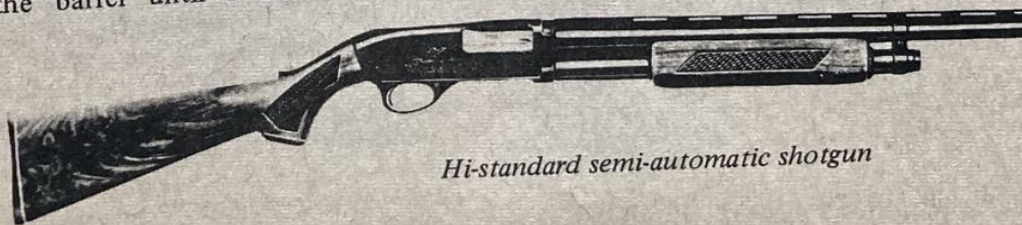
perpendicular, then use emery paper to take out the file marks. Blue the exposed metal with blueing paste, as per instructions.

In doing this, you will of course destroy whatever choke the original barrel had, and are replacing it in effect with a cylinder bore choke (no choke at all), but this is what you want anyway. You can then install either a regular bead type front sight, or have rifle type sights installed.

Automatics run a little more, starting at around \$100 for a used one and \$120 for a new one. Make sure you get a type with a magazine capacity of at least four shells. Some other good brands of shotguns are: Winchester, Remington, High Standard, Mossberg, Ithaca, Savage, and Noble.



*Pump action shotgun with rifle sights.*



*Hi-standard semi-automatic shotgun*

## SUMMARY OF RECOMMENDATIONS

### Best possible short range self defense weapon:

12 gauge pump action shotgun, with 18-20 inch barrel and preferably with rifle sights, loaded with 2¾ inch or 3 inch magnum buck shot or rifled slugs. Best bargain: Mossberg Model 500A. Best: High Standard 7 shot riot gun with rifle sights.

### Good rifle for self defense and learning marksmanship:

.30 M-1 Carbine. Cost: \$80 to \$100.

### Most accurate long range weapon:

Good quality bolt action rifle, cal. .30-06 with telescopic sight. Either 4 power or 3-9 power variable (not suitable for close range self defense). Also good for long range shooting: M-1 Garand or FN 1949 semi-automatic rifles, both in .30-06.

### Short range self defense, concealability and emergency use

Handguns, either revolvers or automatic pistols.

Revolvers: Inherently more reliable, but less power than automatic. Recommended: .38 Special or .357

Magnum Smith and Wesson or Colt. Also good: Llama .38 Special. Best concealable revolver: 5 shot small frame revolver made by Smith and Wesson, Colt, and Charter Arms.

Automatic: Slightly less reliable, but more firepower. Recommended calibers are 9 mm Luger, .45 ACP and .38 Super (if you reload). Best buy: Radom pistol, 9 mm. Best pistol: Browning Hi Power, Smith and Wesson Model 39. Also excellent: Walther P-38, Colt .45 Model 1911, Colt 9 mm and .38 Super, Llama 9 mm, .45, .38 Super, Star model B 9 mm.

### Ammunition recommended:

Shotgun: 2¾ or 3 inch magnum buckshot, with 12 or 15 pellets, or rifled slugs, 12 gauge.

Handgun: By far the best ammo is Super Vel, available in 9 mm., .38 Special, all magnum calibers. .45 ACP.

M-1 Carbine: U.S. made surplus army ammo is excellent quality, but has full jacket. Commercial ammo is made with soft point bullets, much more effective.

High Power Rifles: Ditto.

# RELOADING

Brass cases and shotgun shells can be reloaded over and over again. Loaded ammunition is expensive, ranging from a minimum of 8 to 10 cents per round for military surplus ammo, up to 25 cents per round and more large for commercial cartridges such as .30-06 or 00 Buckshot. It is possible to save a considerable amount of money by reloading, but you have to do a lot of it to realize a savings after you buy the equipment.

Reloading makes sense for two purposes: to produce large quantities of cheap practice ammo and to load up specially effective cartridges, such as soft point automatic pistol cartridges in various calibers which are either not made or hard to obtain.

Reloading consists of several operations: punching out the old primer and inserting a new one, "resizing" the brass case down to its original dimension (necessary since the case expands a little when fired), filling with powder, and seating a new bullet. This is done with a "reloading press" for which you have to buy a separate set of dies for each type of cartridge you want to reload. Various other accessories are necessary, such as a powder measure and powder scale, case trimmer, and a case lubricating pad. All of this equipment can cost \$60 to \$100 and up. It is possible to buy a very simple reloading kit for one caliber for \$10. These work all right, but are slow, and good for one caliber only.

If you buy the bullets, then it is hard to really bring the cost down low, since the bullets cost 4 to 6 cents



each, bringing the cost of a reloaded cartridge to 5½ to 7½ cents. You can buy bullet casting equipment, which will really bring the cost down—e.g., M-1 carbine ammo can be produced for 2 cents per round. Good practice ammo, although commercial bullets are preferable for self defense use.

Thus, if you go into reloading to save money, you will have to do a lot of loading before the equipment pays for itself. A reloading outfit is a good idea if a number of people or collectives go into it together.

Reloading is also useful in making ammo that is not commercially produced or is expensive or hard to get. Examples would be soft point ammo for .38 Super pistols, or such hard to get calibers as 9 mm Bergmann,

7.63 mm Mauser (fired in the excellent Tokarev automatic pistol).

One of the best places to buy reloading equipment (which is legally available) is from Herter's, Inc., in Waseca, Minnesota. Their equipment is about half the price you would pay in a gun store, and is good quality. They also have good buys on firearms and accessories—send away for their catalogue.

## SAFETY

With regard to safety there are two cardinal rules:

1. Never point any type of gun at anyone (including yourself) unnecessarily.
2. Develop the instinctive habit of checking to see whether a gun is loaded **WHENEVER YOU PICK IT UP.**

**ALMOST ALL GUN ACCIDENTS OCCUR WHEN SOMEONE POINTS A LOADED GUN AT SOMEONE, USUALLY WHEN THE GUN IS ASSUMED TO BE UNLOADED!**

If you keep a loaded gun, make sure it is inaccessible to small children and casual visitors who might "play" with it. It is sometimes necessary to keep a gun loaded with a cartridge in the chamber, but it should not be kept with the firing pin cocked, so that if it were to drop it could go off if the sear were to break. In general, you should keep the gun in as "unloaded" a state as possible—if you feel you would have time in an emergency to chamber a round, you should keep the gun with a filled magazine and an empty chamber. These sorts of decisions will of course depend on specific circumstances.

### How to Check if a Gun is Loaded

**Rifle:** Open the bolt (remove the magazine first if it is removable). This will eject a cartridge if there is one in the chamber, but you should also **VISUALLY** check the chamber, to make sure it is empty. Occasionally a worn extractor might leave the cartridge in the chamber.

**Revolver:** Press the cylinder release, swing out the cylinder, eject cases if gun is loaded by pushing back on ejector rod.

**Automatic pistol:** First step is always to remove the magazine. Then pull the slide back. If there is a cartridge in the chamber it will be ejected, although, as in the case

of the rifle, you should visually check the chamber to make sure it is empty.

**Shotgun:** Check magazine first, empty it by pressing magazine release catch, taking shells out one at a time, then pull forearm back. If there is a cartridge in the chamber it will be ejected, but again, check visually.

**SUMMARY:** Empty the magazine, then make sure there is no cartridge in the chamber, check visually.

### Safeties

With the exception of revolvers, which are inherently safe, all guns have some sort of safety device, which is designed to keep the gun from firing when the device is on "safe." On shotguns, the safety is either a button in front of the trigger guard or a sliding tang on top of the receiver. In one position, it is ready to fire, in the other it cannot be fired.

On automatic pistols it is a lever on the side. In addition some pistols also have a "grip safety," which sticks out of the rear of the grip; when the gun is held, this safety is pushed in and the gun can fire. Some autos also have a safety that makes the gun impossible to fire when the magazine is out of the gun.

Rifles have some form of lever or button safety, usually on the rear end of the bolt or on the right side above the trigger guard.

## A note on .22s. . .

Up to now we have not mentioned the little .22 caliber rimfire cartridge, which accounts for half the ammo sold in the U.S. .22 rimfire cartridges are very cheap—about 1½ cents each. They are not reloadable. They don't have enough power to be a good self defense weapon, but they are very useful for people who are learning how to shoot. You can buy a good Winchester bolt action .22 for \$23, and it is a good gun on which to learn rifle marksmanship. The .22 is especially useful in teaching handgun shooting, because you have to use up a lot of ammunition, and .22 shells are cheap.

The long rifle cartridge, with hollow point bullet, while not nearly up to the level of handgun cartridges discussed here, does have 120 footpounds of energy and considerably more stopping power than small automatic pistol calibers such as the .25 ACP. A collective or group of friends would do well to have a .22 rifle or handgun for practice.

## BUYING A USED GUN

Since an unreliable weapon is in many ways worse than no weapon at all in a self defense situation, you should try to buy guns in new or near new condition. Sometimes, however, you can get very good buys if you know what to look for in buying older, used guns. The best sources are dealers, classified ads, and gun shows. In California, you don't have to register a gun bought from a private party.

Here are some tips:

1. Check for barrel wear: On bolt action rifles, you can take out the bolt and look down the barrel; on other guns, open the bolt or slide, and leave in open position. Put a small piece of white paper on the face of the bolt, and look down the barrel from the muzzle end. The white paper will reflect enough light to enable you to see the barrel well. In a new barrel, the rifling is perfectly sharp and shiny! In a used barrel, there may be pitting and corrosion, and the rifling may not be sharp. If a rifle to be used for accurate long distance shooting has a worn barrel, it is not good, but in a handgun a little wear may be acceptable, although the gun should be cheaper because of it.

2. Check external finish: condition of wood stock, etc. Usually a gun well cared for on the outside will be in fine shape on the inside. Check to make sure that everything works: safeties, trigger and firing pin, slides on automatic pistols, cylinder release catch on revolver, etc.

3. Take a look at the hole through which the firing pin protrudes. If it is oval, or out of round, this indicates

a lot of wear.

4. When buying a military rifle, check the serial number on the bolt and on the gun itself—these should match. If they don't, the gun does not have its original bolt, and the clearance between closed bolt and cartridge head, called "headspace" may be too large or small.

5. Look out for firearms produced under German occupation or in Japan in 1944-45. Quality began to deteriorate greatly late in the war. One 1944 Radom pistol we tried would jam on every eighth cartridge. (All such European guns have Nazi swastika stamps and the year of manufacture stamped on them). They will also have a very rough external finish.

6. In the case of an automatic pistol, try to buy one in near new condition, since reliability is critical. Most feeding problems are due to a faulty magazine, so check the lips at the top of the magazine, to make sure they are not bent, damaged, etc. Try if you can to work some cartridges through the action.

7. When looking at a revolver, check the clearance between cylinder and barrel, and check the amount of play when you push the cylinder forward and backward, and when you try to rotate it. Some clearance and play is normal, but it should not be excessive. Also, look at the front of the cylinder—dark eroded rings around the chambers are a sign of much wear.

Check also the "cylinder crane," the piece to which the cylinder is attached, and which rotates out with the cylinder. This should fit well to the frame of the gun, with no play.

# Sights & Sighting

All guns have some type of sights, which are devices to help the shooter aim his gun. Broadly speaking, there are two types of sights: "iron" or "open" sights, and telescopic sights. The former consist of a blade or post attached to the muzzle end of the barrel (or front of slide on automatic pistols), and either a notch or peephole further back (see illustration). Telescopic sights consist of a small telescope with crosshairs that is mounted over the barrel.

When you aim a gun at a bull's eye and fire it, the bullet's point of impact will not always coincide with the bull's eye. This is due to many factors—wind causes the bullet to drift laterally, you may be using different weights of bullets, and most important, shooting at varying distances will cause the bullet's point of impact to vary. Therefore, better sights can be adjusted both vertically and horizontally (called elevation and windage adjustments) to compensate for these factors. With adjustable sights, then, you can adjust a gun, so that under given conditions, it will shoot to the point of aim.

The process of adjusting the sights to point of aim is called "sighting in". It is done by shooting groups of three shots with the gun held as rigidly as possible—using sandbag rests, etc., usually from a prone position or while seated solidly at a heavy bench or table.

In sighting in a rifle, you start out at a short distance, such as 25 yards, and very carefully shoot three shots. If you are aiming and shooting correctly, these three shots will "group" together very closely, but the center of the "group" may be some distance from the bull's eye. You then begin to adjust the sights.

If you want to raise the bullet's point of impact you raise the rear sight; if you want to move the point of impact to the right, you move the rear sight to the right. Many sights have adjustable "click stops" meaning the windage and elevation adjustment screws "click" as you turn them. Each click changes the point of aim some given amount—usually  $\frac{1}{2}$  inch at 100 yards. Suppose you are shooting at 100 yards, and the center of your group is 7 inches too low and 5 inches to the right. You would then turn the windage and elevation screws the appropriate number of clicks to adjust the rifle so that it shoots to the point of aim.

Some guns, especially many handguns, have fixed, non-adjustable sights. It is still useful to "sight in" this type of gun, so that you know where it is shooting and can compensate for it. For example, if you have a revolver with fixed sights that shoots 4 inches high and 3 inches to the left at 25 yards, you can compensate for this when you shoot by aiming 4 inches too low and 3 inches to the right.

## Types of Sights

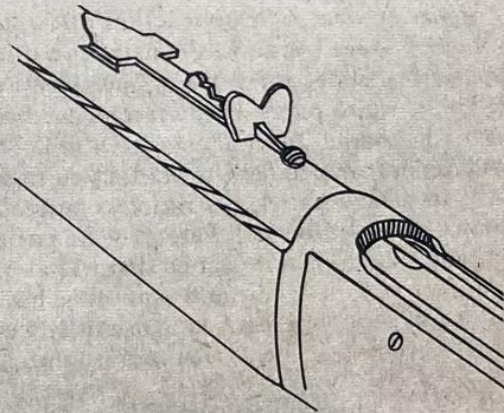
The type of sights with which a gun is equipped has a

tremendous bearing on its potential accuracy. Let's take a look at the various types of sights.

## Iron Sights

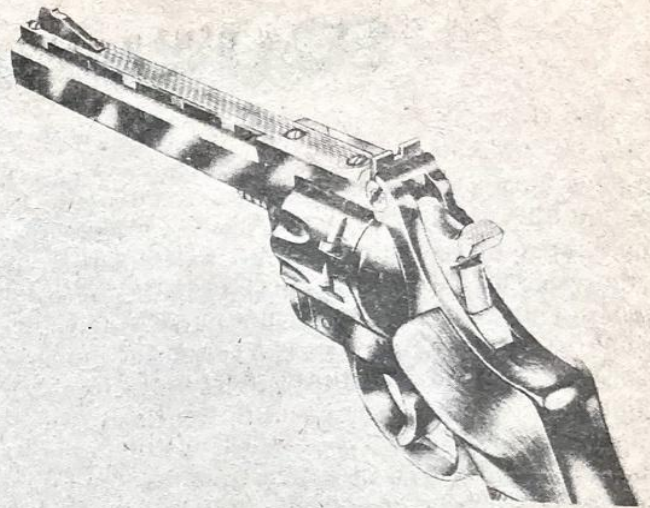
Rifles: Iron rifle sights consist of a post or blade at the muzzle and a peephole or V-notch at the rear. The sights on most military rifles, especially European ones, are atrocious: they have a very small v-notch, which is difficult to sight through, and are not adjustable for windage.

Better sights are found on U.S. military rifles such as the M-1 Rifle and Carbine and the 1903A3 Springfield. These have peephole rear sights which are fully adjustable for windage and elevation by means of click screws. It is also possible to buy and mount good quality adjustable sights for most military rifles.



Two types of adjustable rear rifle sights—peep hole and V-notch. Note the click-stop screws on the peep-hole sight.

**Handguns:** Almost all handguns have a blade front sight and a square notch rear sight (see illustration). While many automatics and revolvers have fixed non-adjustable sights, some have fully adjustable sights. In particular, the Smith and Wesson Model 39, the "target models" of various automatics, and the better Smith and Wesson and Colt revolvers have excellent sights. It is also possible to buy adjustable rear sights to mount on handguns.

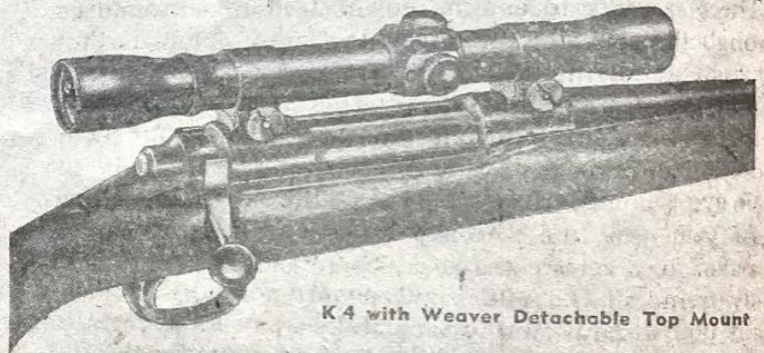


Typical handgun with square U-notch rear sight, blade front sight.

**Shotguns:** Standard shotgun sights consist of a "sighting rib" along the top of the receiver, and a little ball about 1/8 inch in diameter at the muzzle. These sights are not used for pinpoint aiming, as are rifle sights. For use with rifled slugs rifle type sights for the shotgun are strongly recommended.

### Telescopic Sights

Telescopic sights are essentially small telescopes, mounted on top of the gun, parallel to the barrel, with crosshairs built in. When properly adjusted, you look through the eyepiece, focus the scope, align the target with the crosshairs, and fire. Telescopic sights have built in windage and elevation adjustments, like iron sights. There are adjustable knobs under two little caps which unscrew. The knobs have click stops on them, usually one click is the customary minute of angle, which is equivalent to 1/2 inch at 100 yards.



K 4 with Weaver Detachable Top Mount

Scope sights are generally used on high power rifles for accurate shooting at long distances; for accurate shooting at distances over 200 yards, you really need a scope. Although there are scopes made for handguns and shotguns, they are of little use for self defense purposes.

Scopes come in different powers of magnification, from about 2½ to 12 power for general use. On some scopes the power can be varied by turning a ring, e.g., 3 to 9 power or 4 to 12 power. The higher the power the smaller the field of view at a given distance, and the more the image will "shake." Therefore, it is not the case that the higher the power the better the scope. For long distance shooting, higher power scopes are a good choice. For example, Marine snipers in Vietnam are using 3 to 9 power and 4 to 12 power variable scopes. In a fixed power, a good all around choice is 4 power.

Some variable scopes also have built in range finders, which allow you to estimate approximately the range at which the target is.

Like all optical instruments, scopes vary greatly in quality and price. A 3 to 9 variable will cost anywhere from \$23 to \$130. An excellent low price scope is the Bushnell Banner, available in different powers. They are available at discount houses at mail order for about one half the list price, which is \$25 for the 3 to 9 variable.

One discount source is: Parker Distributors, 40 Industrial Place, New Rochelle, New York. Scopes can be ordered through the mail.



**REDFIELD SX-9X  
VARIABLE-POWER SCOPE  
1-INCH TUBE DIAMETER**

3-9 variable power scope is used by Marine snipers.

# SHOOTING THE RIFLE

In learning to shoot any type of firearm properly, it is essential to understand proper aiming and sight alignment.

When shooting a rifle with iron sights, it is necessary to align three points simultaneously: the target, front sight, and rear sight. With your cheek resting against the rifle stock, the correct sighting technique is to have the top of the front sight even with the top of the notch in the rear sight, or centered in the aperture of the peep sight. For target shooting, the top of the front sight is lined up with the bottom (6 o'clock position) of the black bulls eye of the target (see illustrations).

You probably won't be able to keep front and rear sights and the target all in focus, since they are at different distances. You should keep the front sight in focus; the rear sight and target will be blurred depending on how far away each is from your eye, and how good your eye is.

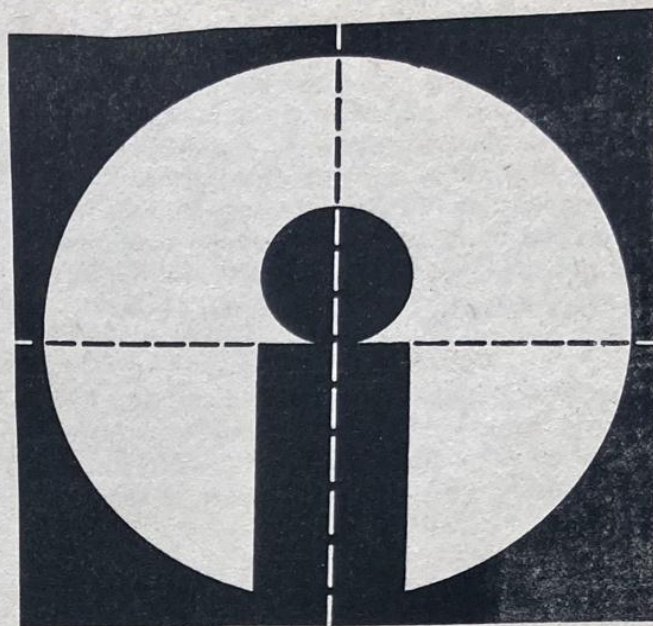
There is more to aiming, however, than just looking through the sights at the target. It's important that you get used to holding the rifle in exactly the same manner: fairly firm grip on the forearm and on the pistol grip with the three lower fingers, rifle butt set well into the shoulder, and cheek resting firmly on the stock so that your eye is comfortably centered on the sights.

As you now look through the sights, the target will "weave" to a certain extent—it is impossible because of body tremors to keep the sights aligned perfectly steady. What you should try to do is make the gun go off just as the sights are aligned perfectly. As you sight, the target will "settle down" a little. At this point, exhale gently, and hold your breath. At the same time, apply a steady pressure against the trigger. As the sight weaves away from the bulls eye, cease applying further pressure on the trigger. Then as the sight weaves back on target continue to apply pressure. If you have coordinated everything, the rifle will fire just as the front sight pauses at the critical point—the skilled rifleman doesn't know exactly when the rifle will fire.

The trigger "pull" is very important. Correct pressure on the trigger is a pull directly backward, by the first joint of the trigger finger. Don't jerk or quickly pull the trigger. If the tension becomes too great, or if you have to hold your breath more than 15 seconds or so, relax, slip on the safety, and lower the rifle for a few seconds. Then try again.



*Proper sight alignment with V-notch.*



*Proper sight alignment with peep-hole sight.*

## Recoil

When gas pressure pushes the bullet down the barrel, it is also pressing the gun backwards for an instant. It is this force that produces recoil or "kick." The heavier the gun is, the less the kick sensation. Powerful cartridges of course produce more recoil than light cartridges. .22 cartridges produce almost no recoil at all. At the other end of the scale, it takes a real expert to handle a gun with very heavy recoil, such as the .41 and .44 magnum revolvers.

The natural tendency of recoil is to shove the gun rearward in a straight line—that is, in a straight line which is a continuation of the center of the bore. However, because the gun is held against the shoulder or the hand, below the center line of the bore, the gun pivots around the butt and moves upward at the muzzle. All guns begin this upward movement before the bullet leaves the barrel and this part of the recoil is called jump. It is for this reason that it is essential for your hold on the rifle or pistol be exactly the same for each shot so that jump can be handled consistently.

A few modern rifles are constructed with a "straight line" stock, which extends backwards directly on a centerline with the barrel, there by preventing the "jump." Both the M-16 and the AK 47 used in Vietnam have stocks of this kind.

## Flinching

A common mistake of many beginners is to jerk the rifle just before letting off the trigger, in anticipation of the "kick" or recoil. Flinching will throw your shooting way off, and is sometimes very difficult to detect. One way of spotting and overcoming it is to load the magazine with an occasional dummy cartridge or have someone load the rifle for you, so that, for any given

shot, you do not know if it has a cartridge in the chamber. Then, when you do come across a dummy cartridge, and the gun does not go off, the tendency to flinch will be easily noticed.

Rifles can be shot from many different positions: standing up, sitting, lying prone, leaning the rifle on a natural rest, etc. The most accurate shooting is done with some kind of rest—a window sill, a rock, log, etc. Don't rest the forearm of the rifle directly on a hard rest—put something soft like a jacket under the forearm. If no rest is available, the next most accurate position is prone, then sitting. The most difficult position for accurate shooting is standing (called offhand).

### Slings

The purpose of a sling, in addition to carrying the rifle, is to provide more rigidity in the various stances. In most positions a sling does add a lot of stability, although when using a rest for the forearm, a sling is often not used.

Made up of two sections, a properly adjusted sling forms a loop into which the left arm is inserted until the loop grasps the arm above the elbow. The left arm, holding the forearm, applies a side pressure on the sling with a firm but comfortable tension. The sling loop is adjustable to get the right tension.

### Shooting Stances

The prone position is the steadiest, and for most shooters, the easiest one. A sling may be used. Lie on your stomach at about a 45-degree angle from your line of sight, with your feet comfortably spread apart. As you raise your rifle, it should point naturally at the target. If you must crane or shift your shoulders to align the sights on the bull's eye your position is wrong. Shift your body one way or the other, until the gun points easily at the target. Your two elbows and chest should form a tripod, with your elbows firmly but comfortably apart. As in most positions (there are certain exceptions) the forearm should rest in the palm of your hand. Don't hold the gun up by your fingertips.

The sitting position calls for more shooting skill if you're seeking consistent bull's eyes, since, naturally, it isn't as steady as the prone. Sit facing the target at about the same angle used in the prone stance, feet well apart. Let your feet extend themselves naturally so that there is no strain or tension in the arch. Don't place your elbows directly on your knees, as many are prone to do, since this is not only difficult but will cause excessive

body wobble. Instead, allow your elbows to slide down along the inside of your knees and arch your back forward until your shooting eye is in line with the sights. No two shooters hold this stance exactly alike since no two persons have exactly the same build or body flexibility. Vary it slightly to fit your physique. If any part of the body feels strained uncomfortably, relax the stance slightly.



*Proper sitting stance.*

The offhand or standing position calls for the body to be poised at almost right angles from the target, facing 3 o'clock. Hold the forearm at comfortable length and the right arm away from the body, the latter nearly horizontal with the right elbow pointed directly away from the body. The feet should be spread, the distance depending on the length of your legs and the comfort you attain. In this position, you will be most conscious of the weight of your rifle and you may correctly tend to lean backwards from the waist slightly to compensate for this. As in all positions, the cheek should be set firmly against the comb or stock and no part of the body should be so rigid that tensions and tremors set up. Relax as much as you can while staying in this position. Offhand shooting is the most difficult, and don't be surprised if you shoot poorly in the first attempts.

Expert riflemen, even though trained in all the stances, will always use a natural rest if it is available. Marine snipers in Vietnam are taught to do ALL their shooting in this way, with the forearm of the rifle sitting on a natural rest. A rest can be used in prone, kneeling and standing positions.



*Prone stance.*

On many rifle ranges, shooting from a bench is the only stance allowed. The range furnishes small sandbags, which are set on the bench, and the forearm is placed on them. This is called "bench rest shooting," and allows for great accuracy. Sighting in of rifles should be done from the benchrest position. In open country, you can get practice using many types of natural rests, such as rocks, logs, fence rails, etc.

Sighting, trigger pull, and shooting stances should all be practiced extensively without ammunition inside a



*Offhand stance. The right elbow really doesn't have to be as high up as the picture shows.*

room before going out to the range. This is called "dry firing" and is very important in learning good marksmanship. In fact, expert marksmen spend some time every day doing dry firing practice. Pennies scotch taped to the wall make good targets for dry firing. You should take dry firing very seriously, concentrating on all of the elements of proper form, etc., as if you were really shooting. If you do this, you will have some confidence and ability on your first trip to the range.

Another thing to practice during dry firing is fast successive shots, which depends on realigning the sights on the target after each shot. One good way of simulating recoil and the need to realign sights when dry firing a semi automatic rifle is to have someone stand beside you and slam back the bolt handle immediately after you pull the trigger. This feels very much like recoil and can even cause flinching.

For a beginner, it is a good idea to start out shooting a .22 rifle if you can get one. For one thing, ammunition is very cheap, and since there is almost no recoil, flinching is not likely to be a problem. At some point, though, you will have to move up to the "real thing," and the heavy recoil of high power rifles may cause flinching, which will have to be overcome.

#### Rifle Safety

In the range and in the field, always flip on the safety if you are not about to immediately use the rifle. It is a good idea to keep the bolt in the open position when not using the rifle for a few minutes. On the range, you should always open the bolt when the range master gives the signal to go out to inspect the targets.



**Marine snipers are taught to shoot from any position where the rifle can be securely supported. No sling is used and no support is given to the fore-end. The prone position shown here is not unlike the conventional benchrest technique familiar to sportsmen.**

# SHOOTING THE HANDGUN

In learning handgun shooting, you must first unlearn years of watching cowboy and James Bond movies, where the good guys whip a handgun out of a holster and shoot from the hip, usually knocking a gun out of their opponent's hand at 50 yards.

While it IS possible, with many months or years of practice to shoot "instinctively" from waist level without sighting, most people can't "instinctively" hit anything further away than 6 feet, and might even shoot off their toes.

Except for across-the-table distances, most people shoot the handgun with arms outstretched, and sights lined up on the target just as in rifle shooting. Accurate handgunning, however, is much more difficult than rifle shooting.

## Handgun Grip and Stance

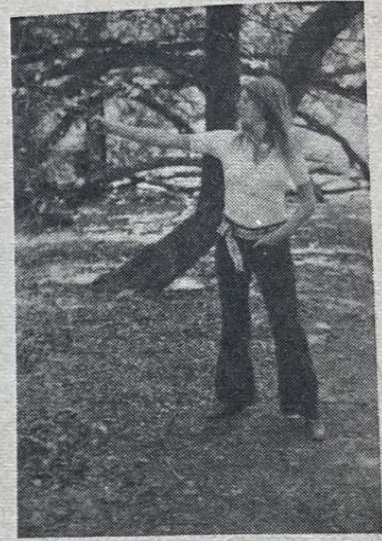
The manner in which a handgun is held is important for accuracy, and correct grip should be practiced until it becomes instinctive. Spread your hand out to form a V, with your thumb on one side and four fingers on the other. With your other hand lodge the gun solidly into the V, then close your fingers around it. The trigger finger should enter the trigger guard comfortably with the first joint of the finger resting on the trigger. The thumb should be applied against the frame on the opposite side, either on a level with the trigger finger or slanted slightly downward.

The grip on the gun should be high enough so that you have firm control and so that the revolver, especially, doesn't feel topheavy. Be sure that the gun is not slanted to one side or the other as this will cause shots to center low and to the side of the bull's eye. Apply trigger pull directly backward, without any side pressure.

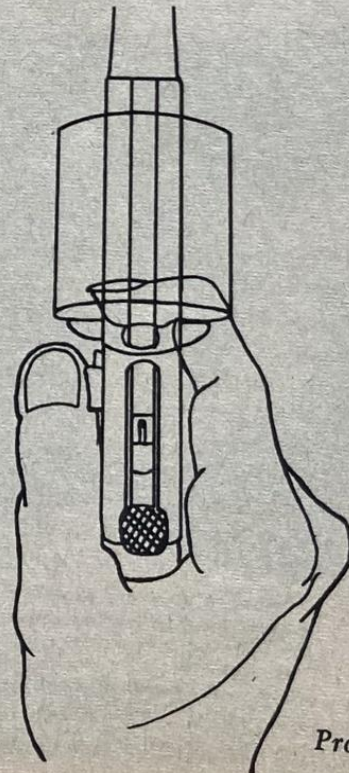
## Stance

There are many different shooting positions, which will be described later. For initial shooting, you should practice the standard one handed "offhand" position. Face the target, then turn away about 45 degrees. Feet should be well apart but comfortable, and shoulders level. Outstretch your arm, and point the gun at a target, and close your eyes for a few seconds. When you open your eyes if your gun is still pointed at the target your angle of stance is correct. If your gun has drifted right or left slightly, you should shift your position accordingly. Shift your feet but don't twist your body until the gun points naturally and easily at the target.

Be sure to raise the gun high enough so that you don't have to lower or cant your head to align the sights. The arm should be straight but not so rigid as to cause tremors. The wrist and elbow shouldn't "break" under recoil, rather, the arm should bend upward at the shoulder to absorb the recoil.



*Proper offhand shooting stance.*



*Proper grip on handgun.*

## Sighting and Shooting

Now you are ready to try some aiming and dry firing, preferably at pennies taped to the wall. Single action handgun shooting is easier than double action, so you should start with it, by cocking the hammer of your pistol or revolver.

As the sights line up on the bottom of the bull's eye (see illustration), start your trigger pull, slowly and deliberately. If the front sight moves away from the target, hold the trigger pressure but don't release any. As the sights return on target, reapply trigger pressure. As with rifle shooting you shouldn't know exactly when the gun will fire. Breathing is also similar to rifle shooting: hold your breath while pulling the trigger, but no longer than fifteen seconds. If you haven't fired by then, put the gun down a few seconds to rest.

After some practice at this, you are ready to go to the range. Be sure to **take your time** with each shot. Try to apply all of the points of proper stance, aiming, trigger pull, etc. You won't learn anything if you just go out there and start banging away. If you are shooting a cartridge larger than the .22, flinching is likely to occur. Proper technique, which eliminates knowing exactly when the gun will go off will diminish a tendency to flinch; with a revolver it is also possible to have a friend load your gun, leaving a couple chambers empty, so that you don't know which are loaded and which are not. A few sessions of this type of shooting will generally cure the flinching habit.



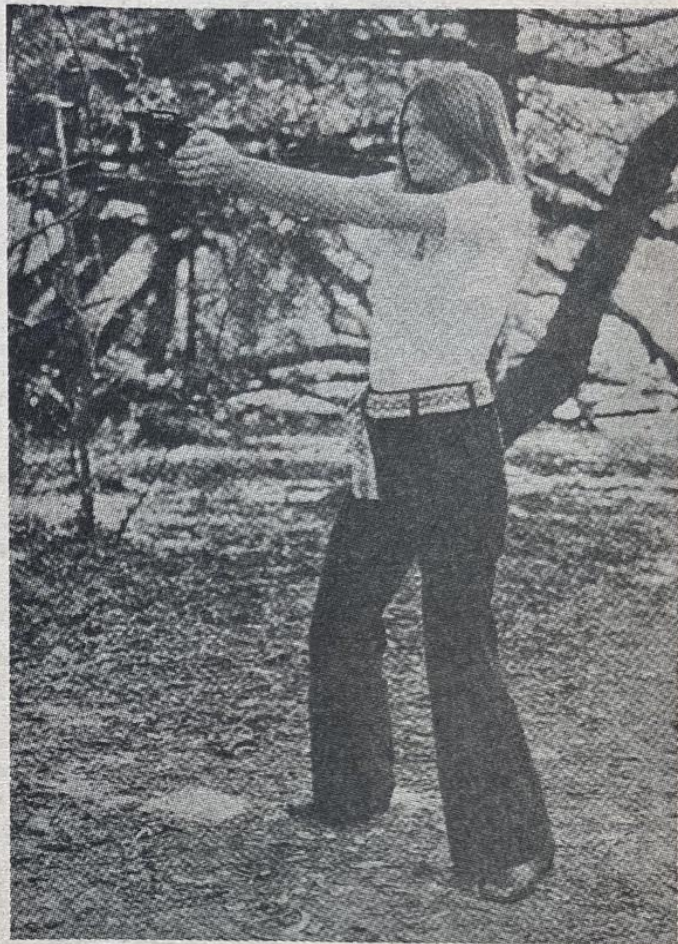
*Proper sight alignment results from aligning front sight at six-o'clock position on bull's-eye and centered within notch of rear sight.*

## Double Action Firing

Double action shooting consists of firing the revolver **but not cocking it manually**. The double action revolver cocks itself when the trigger is pulled. A few automatics, such as the Walther P-38, can also be fired double action for the **first shot only**. After the first shot, the recoiling slide rides over the hammer and cocks it, so that successive shots are fired single action.

Fast defensive shooting with revolvers is almost invariably double action, because shots can be fired much faster. The recommended stances for fast double action shooting are somewhat different from the stance described above—you should face the target squarely, with knees slightly bent so that you stand in a slight crouch. The gun can be held either with one hand or with two hands, with both arms outstretched. In the latter case, the left hand is wrapped around the right hand, but does not touch the gun directly, which is held in the right hand. (For right handed shooters). Grip the gun firmly with the arm and wrist muscles quite taut.

31 **Don't jerk the trigger**—acquire a smooth, though quick, backward pull. Accurate double action shooting can't really be done at distances over 20 to 25 yards. Begin practicing at 8 to 10 yards, if you can find a place where you can shoot at this distance.



*Stances for double action close range shooting, two handed and one handed.*

place where you can get to it easily, yet which is not visible to casual visitors, etc.

Revolvers can be kept with a loaded cylinder and the hammer down—there is no safety device on a revolver since it is considered inherently safe. In this condition, it takes only a pull of the trigger to bring it into use.

Safe automatic pistol storage is a bit more complicated. Most automatics have an external hammer and a “half cock” notch on which the hammer can be lowered almost all the way, but not touching the firing pin. With this type of pistol, you can load the magazine, pull the slide back to chamber a round, and then let the hammer down on the half cock notch. With the safety on, the pistol in this condition is quite safe. To be used, you would have to disengage the safety and cock the hammer.

With a double action pistol such as the Walther P-38 or the Smith and Wesson Model 39, you don't even have to cock the hammer to bring the gun into use, since the first shot can be fired double action, and the hammer is cocked and released by the pull of the trigger.

Some authorities say the double action mechanism is not as great an advantage as it seems, because due to the fact that the trigger position is different for double action and single action firing, the grip must change between the first and second shots, or at least one of the two will be wild, so that for getting off several accurate shots, the double action pistol may not have significant advantage over the standard single action automatic pistol.

Some pistols, such as the Astra, do not have an external hammer. With this type, if you were to pull the slide back and chamber a round, the firing pin would be cocked, and the pistol would be somewhat dangerous to carry, since, if the sear were to break, the gun could go off. This is why a hammerless pistol is a poor choice for self defense. The only way to store this kind of pistol safely is with a loaded magazine and EMPTY chamber. Before using it, you would then have to pull back the slide to chamber a round. (The Astra 600 is the only pistol we have listed which does not have an external hammer).



Instinctive shooting is often done with the gun at waist level. The sights are not used at all, rather the shooter looks at the target and “points” the gun at it. This is very very difficult, and takes much practice. If you are interested in learning this, consult a book on handguns, such as the *Pistol and Revolver Guide*, by George Nonte.

### Handguns and Self Defense Shooting

If you keep a handgun for self defense, unless you are very confident about using it, you are better off without it. Deciding when to use a gun is a very serious decision. Many friends and relatives have been killed or wounded because they were assumed to be intruders. Furthermore, if you pick up a gun to “investigate a noise,” or because you think you are to be attacked, be prepared to use it without hesitation—if the assailant sees you with a gun he is likely to shoot or attack you.

If you defend yourself against an assailant who enters a building where you are, here are some tips based on an expert's advice: never expose yourself—a quick unexpected shot can shift the odds against you. If you approach an intruder, don't put on your shoes. Don't stand in a doorway, even a darkened one, because you will be silhouetted clearly and a perfect target. Locate your adversary exactly, observe his position, make sure he is unaware of your presence. The most important thing: **MAKE SURE** that the person is an assailant, that his intent is dangerous enough to warrant using a gun. If the person is merely a burglar, and not someone intending to physically attack you, use of a gun is not warranted.

### Safety and Handling

If you keep a handgun to be used in an emergency, some safety considerations should be kept in mind. Know exactly where the gun is kept—which should be a



*Sitting stance for long range shooting*

# SHOOTING THE SHOTGUN

## Shooting the Shotgun

When using rifled slugs in a shotgun equipped with rifle sights, the shotgun is shot almost exactly like a rifle. The typical shotgun, however, with a bead front sight, is not sighted like a rifle.

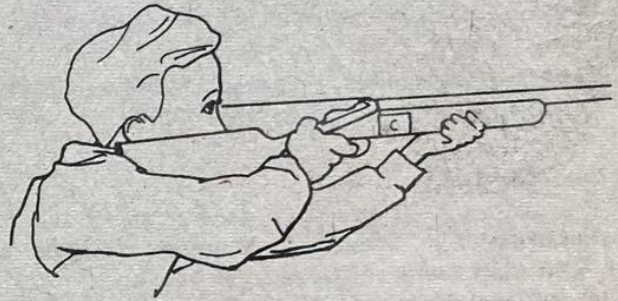
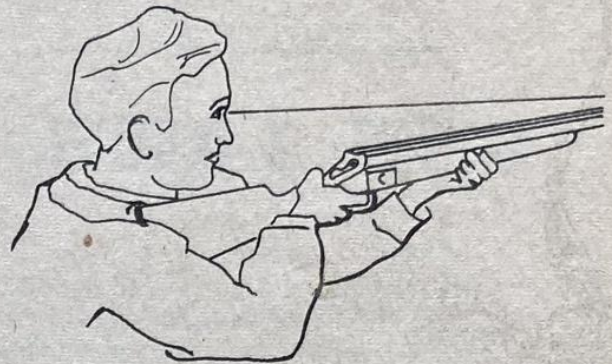
With this type, as you bring the gun up your shooting eye should look over the barrel at the target. You may close one eye, or shoot with both open. Despite the fact that you are looking over the barrel, you will see little of its detail. With only a bead front sight, your line of sight will be determined by where you put your eye in relation to the barrel.

For this reason it is very important to practice the shooting position, and to be able to put your cheek exactly on the same spot on the stock every time you shoot.

Be sure also that your cheek is low enough on the stock, or you will shoot "high"—above the point of aim. Looking over the barrel as you shoot, the muzzle appears high enough but the stock is down, hence your shot pattern will be higher than your actual "aim." "Crowding" the gun too closely to your face and cheek can result in the reverse situation—shot pattern too low, although this is like likely to occur (see illustration).

For self defense purposes, shotguns are usually fired from the shoulder, aiming in this way. At very close ranges, when speed is essential, it is possible to shoot the shotgun from the hip, as shown. One good type of practice in handling a shotgun is to have a friend throw empty tin cans through the air, which you try to shoot down. Use small size shot, such as no. 9 or no. 7½ for this. In this type of shooting, you swing the barrel, following the target. It is very important to both "follow through," and to provide some "lead." "Following through" consists of swinging the barrel along the path of flight of the target, coming abreast of it, pulling the trigger and continuing the swing. None of these are separate motions; they are continuous and coordinated. Continuing the swing will keep you on target; if you stop the swing, when you pull the trigger your own reaction time will give the target a chance to continue its flight out of your shot pattern range.

"Lead" is the distance at which you fire ahead of a flying object, so that the target's path of flight and the shot charge will meet. The faster the target is moving, the more lead is needed. Tin can practice will allow you to gauge the amount of lead needed at various speeds and distances. After some practice of this sort you will be able to try some "trap shooting," in which clay targets (called clay pigeons) are thrown into the air and which you try to hit. Shotguns are not allowed on rifle and pistol ranges, so for most "kinds of self defense shooting practice with a shotgun, you will have to go out in the country.



*Not getting cheek low enough on stock results in shot pattern overshooting target.*



*Shooting from the waist at very close range.*

It is a good idea to "pattern" your gun—that is, find out how it distributes the shot pattern. You can do this by setting up a large piece of paper as a target at various distances, such as 20, 40, and 75 feet, and firing a 00 Buck shell at each target. The resulting pattern of pellet holes will tell you how much your shot spreads at various distances. A short barreled cylinder bore gun with 00 Buck will usually produce about a 20 inch

pattern at 35 to 40 feet.

A word about recoil: the recoil of a lightweight 12 gauge pump gun with magnum buckshot or slug loads is rather severe. Small persons may find that a 20 gauge shotgun is much easier to handle. Also, semi-automatic shotguns generally have a little less recoil than pump

34

guns.

Shotguns can be safely kept ready to use with a loaded magazine and an empty chamber. It then only takes a pull and push of the forearm to make the gun ready for use. They can, of course, be kept with a loaded chamber and the safety on, but this is more hazardous.

## GUN LAWS

Gun laws vary considerably from state to state. There is also much overlap with federal laws. We have summarized here the main California laws and the 1968 Federal Firearms Act. For laws in other states, and more detailed descriptions, check out a manual called

**Published Ordinances, Firearms.** available from the U.S. Government Printing Office for 75 cents.

### California Laws

**Registration:** There is no general registration law in California. San Francisco attempted to pass a city registration law, but it appears to have been struck down by the legislature, and has never gone into effect. San Francisco does have a law requiring a prospective purchaser of a **concealable** weapon (i.e., a handgun) to get a permit from the SF police. This law functions as a de facto registration law for handguns in San Francisco.

#### Buying and Possession:

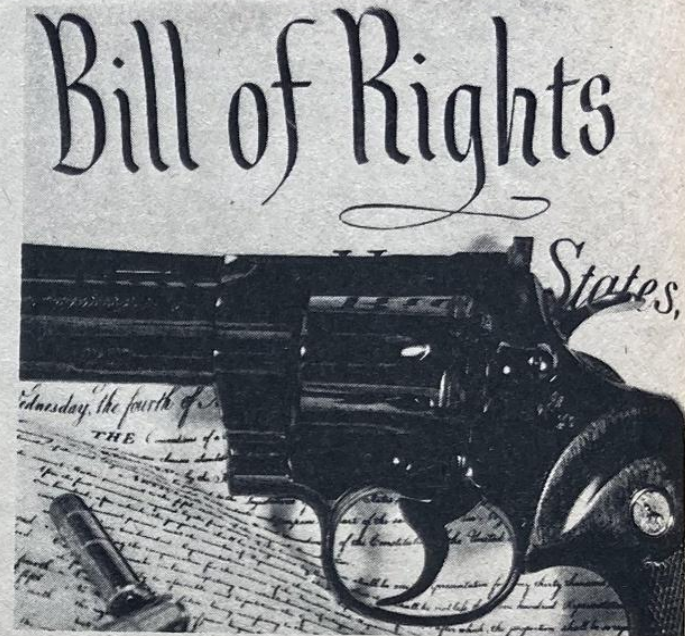
**Age requirements:** It is a misdemeanor to sell any weapon to a minor under 18, or to furnish any weapon to him without express or implied consent of parent. (PC 12551)

A concealable weapon (i.e., handgun) may not be possessed by minors under 21, without written permission of parents. (PC 12021.5)

The 1968 Federal law requires dealers to keep a record of all firearms and ammunition sold. Drivers license ID is usually required.

**Concealable weapons:** Concealable weapons may not be possessed by any of the following: a non citizen, a convicted felon, or one "who is addicted to the use of any narcotic drug." (PC 12021) When purchasing a concealable firearm from a licensed dealer, you must wait for five days, while the dealer sends your name to the local police department, which checks to see if you fit into the above categories. (PC 12071) You can buy a concealable weapon from a private party, without having your name sent to the police department. In this case, the law stipulates only that the buyer be "personally known" to the seller. (PC 12072) Rifles and shotguns may also be bought in this manner. Rifles, shotguns and pistols are all commonly sold through newspaper classified ads and at gunshows in this way.

It is always illegal to carry a concealable firearm in a concealed state on your person or in a vehicle (PC 12025) Permits to carry a concealed weapon are



available, but most unlikely that any of us could get one. Law does allow you to carry a concealable weapon openly, such as in a holster, or in a car if it is visible from outside the car. By implication, it is legal to carry non-concealable weapons—i.e., rifles and shotguns—in a concealed state, either on your person or in a car.

It is legal to possess, own, etc. any type of legal weapon, including concealable weapons, in one's place of business or residence, even if temporary, such as a campsite.

**Carrying of loaded firearms:** It is illegal to carry any loaded firearm on person or in vehicle in any public place or public street. (Passed after 1966 Black Panther visit to State Legislature). Firearm is considered loaded if a cartridge is attached to the gun in any manner, including a cartridge taped to the stock. It is legal to have ammo in a magazine not attached to the gun. Police are authorized to examine any gun in a public place to determine if it is loaded, and refusal to allow examination constitutes probable cause for arrest. If you were validly arrested, this would allow the cop to carry out a legal search and seizure of your car.

**BUT—it is legal to carry a loaded firearm, if otherwise lawful, where one "reasonably believes that person or property of himself or another is in immediate danger and the carrying of such firearm is necessary for the preservation of such person or property."**

Another law applies to carrying loaded firearms on State Capital, legislature, Governor's residence, and public schools, including U.S. and state colleges. In this law the firearm is considered loaded if you possess the gun and ammo for it on your person.

## Illegal Weapons

Certain categories of weapons and ammo are illegal:

1. Shotguns with barrels less than 18 inches long, rifles with barrels less than 16 inches long, or any rifle or shotgun whose overall length is less than 26 inches. (Barrel length is measured by sticking rod down barrel until it hits the closed bolt.)

2. Any type of fully automatic weapon (machine gun), definition—capable of firing more than one shot each time the trigger is pulled. (Weapons discussed in this book are semi-automatic, meaning they fire one shot for each pull of the trigger).

3. Tracer and incendiary ammunition which ignites on impact, with the exception of tracer shotgun ammo. This was recently made illegal, and many persons have some on hand.

4. It is illegal to modify, change, obliterate any serial number or brand name on a concealable firearm (PC 12090), or to possess such a firearm (PC 12094)

## Federal Firearms Laws

The Federal Firearms Act, passed in October 1968 makes illegal the interstate purchase of firearms, either by mail order, or in the case of a citizen of one state buying a gun in another state. (One loophole allows the purchase of a rifle or shotgun only, in a neighboring state to the one in which you reside). Interstate mail shipping of guns can only take place between licensed dealers. It is unlawful for a dealer to sell a gun to any of

the following:

1. A person under indictment where punishable for more than one year (i.e., a felony indictment)

2. A "fugitive from justice"

3. An unlawful user of, or person addicted to marijuana or any depressant or stimulant or narcotic drug.

4. Any person who has been adjudged a mental defective or has been committed to any mental institution.

Possession of a gun by any of the following is also unlawful:

Convicted felon, person with dishonorable military discharge, one who has been adjudged a mental incompetent, one who has renounced U.S. citizenship, and an illegal alien.

The 1968 law also put import restrictions on many types of foreign commercial handguns, and foreign military surplus guns and ammo. Therefore, gun prices, which have already increased tremendously in the past two years, will increase even more. Buy now!

It is especially important to buy handguns soon, since they are under the greatest attack. The President's

Commission on Violence has already recommended that all handguns in private hands be confiscated, and it is probably only a matter of short time before handguns come under much stricter control.

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# CLEANING

For most purposes, the cleaning equipment you need consists of a bore solvent and gun oil, and a cleaning rod, brass brush, tips, and cleaning patches all in the right caliber for your gun. All of these supplies can be bought in cleaning kits which sell for about \$3.50.

Steps in cleaning the gun: open the bolt or slide; take out the bolt if it is removable; screw the "patch tip" onto the end of your cleaning rod. Cleaning patches are small round pieces of flannel, which come in different sizes for various calibers. Soak a patch in the solvent and run down the bore of the barrel using the rod. Take the patch off when the rod comes out the other end. (If the bore is very dirty you can start out with the brass brush dipped in solvent and screwed on the end of the rod, but only if quite dirty.)

Run one or two solvent-soaked patches down the bore in this way, then run 4 or 5 dry patches down the bore. These patches soak up the solvent and dissolved residues. Finally, run an oil-soaked patch down the bore, leaving a LIGHT coat of oil on the inside of the bore. Use the solvent-soaked patch to wipe off any other powder residues, such as the face of the bolt, the face of the revolver cylinder. (In the case of a revolver you will have to run the whole series of patches through each chamber of the cylinder, as well as through the barrel.)

With the oil soaked patch, leave a light coating of oil on all the exposed metal parts of the gun, and on the

moving parts, such as the bolt.

This applies to all guns. With auto pistols, you generally field strip. In the case of gas operated semi automatics, you will occasionally also have to clean out the gas cylinder and piston and other moving parts. See a manual or W.H.B. Smith's **Small Arms of the World, s, on how to take apart and clean such popular weapons as the M-1 rifle and carbine, FN semi auto rifle, etc.**

The blue finish on guns is delicate, and can be rusted by merely by fingerprints that are not wiped off. Always wipe off a fine gun after handling with an oily rag, also, you can buy a silicone impregnated cloth that is perfect for wiping guns.

Modern ammunition makes gun cleaning a relatively simple task, but this was not always the case. Old fashioned ammunition had "corrosive primers" which contained a chemical substance that would very quickly rust the barrel if not removed immediately after firing. There is still some European military surplus ammo that is corrosive-primed. Avoid this type of ammo by all means, if you can. All U.S. military ammo and all commercially made ammo is non-corrosive. The only reliable way to clean a gun when fired with corrosive primed ammo is to run boiling water through the barrel, which dissolves the corrosive salts. Of course, the gun must then be thoroughly dried.

# FURTHER READING

1. Technical: This handbook does not go into specific designs of different firearms, nor how to strip them. Two of the best sources of this information are the classic books by W.H.B. Smith: **Small Arms of the World** and **The Book of Pistols and Revolvers**. There are also many small books dealing with one firearm, such as the M-1 Gerand, and Carbine, Browning Hi-Power pistol, etc., which go into detailed field stripping, history, overhauling, etc. These are generally put out by right wing publishing houses, such as Panther Publications in Boulder, Colorado.

2. General:

Maj. George Nonte, **Pistol and Revolver Guide**  
 L.R. Wallack, **The Anatomy of Firearms**  
 John Olson, (Ed.) **Shooter's Bible**  
 National Rifle Association: Basic Pistol  
 Marksmanship, Basic Rifle Marksmanship, and Basic  
 Shotgun Marksmanship

3. Reloading: The best source for a detailed explanation of how to reload, plus loading data for almost all cartridges and shot shells is the **Lyman Reloading Guide**, available at all gun stores.

## Handgun Ballistics

*Remington Arms Company*

Explanation of abbreviations: H.V., high velocity; M.C., metal case; J.S.P., jacketed soft point; M.P., metal penetrating; S.P., soft point.

| Caliber                  | Bullet |       | Velocity |         |          | Energy |         |          | Mid-Range Trajectory |          | Barrel Length     |
|--------------------------|--------|-------|----------|---------|----------|--------|---------|----------|----------------------|----------|-------------------|
|                          | Wgt.   | Style | Muzzle   | 50 yds. | 100 yds. | Muzzle | 50 yds. | 100 yds. | 50 yds.              | 100 yds. |                   |
| .22 Rem. Jet Mag.        | 40     | JSP   | 2460     | 2100    | 1780     | 535    | 390     | 280      | 0.2                  | 1.0      | 8 $\frac{3}{8}$ " |
| .221 Rem. Fireball       | 50     | S.P.  | 2650     | 2420    | 2200     | 780    | 650     | 535      | 0.2                  | 0.8      | 10 $\frac{1}{2}$  |
| .25 Auto                 | 50     | M.C.  | 810      | 755     | 700      | 73     | 63      | 54       | 1.8                  | 7.7      | 2                 |
| .30 Luger                | 93     | M.C.  | 1220     | 1110    | 1035     | 307    | 254     | 221      | .9                   | 3.5      | 4 $\frac{1}{2}$   |
| .32 S & W                | 88     | Lead  | 705      | 670     | 630      | 97     | 88      | 77       | 2.6                  | 9.8      | 3                 |
| .32 SW Long              | 98     | Lead  | 780      | 740     | 700      | 132    | 119     | 107      | 1.9                  | 7.9      | 4                 |
| .32 Short Colt           | 80     | Lead  | 795      | 710     | 635      | 112    | 89      | 72       | 1.9                  | 8.6      | 4                 |
| .32 Long Colt            | 80     | Lead  | 790      | 740     | 700      | 111    | 97      | 87       | 1.9                  | 8.0      | 4                 |
| .32 Colt New Police      | 100    | Lead  | 785      | 725     | 670      | 137    | 117     | 100      | 1.9                  | 8.3      | 4                 |
| .32 Auto                 | 71     | M.C.  | 960      | 905     | 850      | 145    | 129     | 114      | 1.3                  | 5.4      | 4                 |
| .357 Mag. H.V.           | 158    | Lead  | 1430     | 1255    | 1130     | 717    | 551     | 447      | 0.6                  | 2.8      | 8 $\frac{3}{8}$   |
| 9 mm Luger               | 124    | M.C.  | 1120     | 1030    | 965      | 345    | 292     | 256      | 1.0                  | 4.1      | 4                 |
| .380 Auto                | 95     | M.C.  | 955      | 865     | 785      | 192    | 158     | 130      | 1.4                  | 5.9      | 3 $\frac{3}{4}$   |
| .38 Auto                 | 130    | M.C.  | 1040     | 980     | 925      | 312    | 277     | 247      | 1.0                  | 4.7      | 4 $\frac{1}{2}$   |
| .38 Super Automatic      | 130    | M.C.  | 1275     | 1140    | 1050     | 469    | 375     | 318      | 0.8                  | 3.4      | 5                 |
| .38 S & W                | 146    | Lead  | 730      | 695     | 655      | 173    | 156     | 139      | 2.2                  | 9.0      | 4                 |
| .38 Special Match W.C.   | 148    | Lead  | 770      | 655     | 560      | 195    | 141     | 103      | 2.1                  | 10.0     | 6                 |
| .38 Special              | 158    | Lead  | 855      | 820     | 790      | 256    | 236     | 219      | 1.6                  | 6.5      | 6                 |
| .38 Spec. M.P.           | 158    | M.P.  | 855      | 820     | 790      | 256    | 236     | 219      | 1.6                  | 6.5      | 6                 |
| .38 Special              | 200    | Lead  | 730      | 695     | 665      | 236    | 214     | 196      | 2.2                  | 9.0      | 6                 |
| .38 Special M.P. H.V.    | 110    | Spcl. | 1320     | 1130    | 1020     | 425    | 312     | 254      | 0.7                  | 3.4      | 5                 |
| .38 Spec. H.V.           | 158    | Lead  | 1085     | 1030    | 980      | 413    | 372     | 337      | 1.0                  | 4.2      | 5                 |
| .38 Colt New Police      | 150    | Lead  | 680      | 645     | 615      | 154    | 138     | 126      | 2.5                  | 10.5     | 4                 |
| .38 Short Colt           | 125    | Lead  | 760      | 715     | 670      | 160    | 142     | 124      | 2.1                  | 8.7      | 6                 |
| .38 Long Colt            | 150    | Lead  | 770      | 735     | 700      | 197    | 180     | 163      | 1.9                  | 8.1      | 6                 |
| .41 Long Colt            | 195    | Lead  | 730      | 705     | 680      | 231    | 207     | 200      | 2.2                  | 8.8      | 6                 |
| .44 Remington Magnum     | 240    | Lead  | 1470     | 1275    | 1120     | 1150   | 870     | 670      | 0.6                  | 2.7      | 6 $\frac{1}{2}$   |
| .44 S & W Spec.          | 246    | Lead  | 755      | 725     | 695      | 311    | 283     | 264      | 2.0                  | 8.3      | 6 $\frac{1}{2}$   |
| .45 Colt                 | 250    | Lead  | 855      | 815     | 775      | 405    | 368     | 333      | 1.6                  | 6.6      | 5 $\frac{1}{2}$   |
| .45 Auto                 | 230    | M.C.  | 850      | 810     | 775      | 369    | 335     | 307      | 1.6                  | 6.5      | 5                 |
| .45 Automatic Match W.C. | 185    | M.C.  | 775      | 695     | 625      | 247    | 198     | 160      | 2.0                  | 9.0      | 5                 |
| .45 Automatic M.P. H.V.  | 173    | Spcl. | 1125     | 1005    | 920      | 486    | 388     | 325      | 1.0                  | 4.3      | 5                 |
| .45 Auto Rim             | 230    | Lead  | 805      | 765     | 725      | 331    | 299     | 268      | 1.8                  | 7.4      | 5 $\frac{1}{2}$   |

# GUN TALK

**Action**—The unit, including the firing mechanism and bolt or breechblock, which handles a cartridge or shell.

**Aperture**—Peep hole in rear receiver sight through which a shooter looks at a target.

**Auto-Loader**—A self-loading or semiautomatic gun which fires once with each pull of the trigger. Also called an automatic.

**Automatic**—A truly automatic gun fires continually as long as the trigger is held back—really a machine gun, although the term is popularly applied to semiautomatic sporting weapons.

**ACP**—Automatic Colt Pistol, the .45 caliber cartridge for automatic pistols.

**Ballistics**—The science of projectiles.

**Ballistic Table**—Charts issued by ammunition manufacturers indicating the performance of various loads.

**Battery Cup**—The unit containing the primer cap in a shot shell.

**Base Wad**—The bottom wad in a shot shell, surrounding the primer and battery cup, varying in thickness according to the shell's load.

**Beavertail**—A wide, hand-filling forearm, usually on a rifle.

**Bedding**—Refers to the fitting of a stock to a gun's action and barrel.

**Bench Rest**—A specially devised shooting table, usually having a rest for the gun's forearm.

**Berdan**—A European-type primer, utilizing twin flash-holes. Not interchangeable with American or Boxer primers.

**Big Game**—Generally applied to animals of the deer and black-bear size and larger.

**Bolt**—Usually associated with bolt-action rifles.

The unit which houses the firing pin and which drives the cartridge into the firing chamber and locks it into place for firing.

**Bore**—The caliber of a rifle or handgun and the gauge of a shotgun. In the case of rifled barrels, the bore diameter is measured from the top of the lands although occasionally the groove diameter is given.

**Boxer**—American-type center-fire primers, using a single flash-hole in the cartridge base.

**Breech**—Opening at the rear of the barrel through which ammunition is loaded and empty cases ejected.

**Breechblock**—Serves the same purpose as the bolt. Sometimes the terms "bolt" and "breechblock" are used interchangeably.

**BT**—Boattail, a streamlined bullet having a tapered heel.

**Bullet**—The projectile fired by a rifle or handgun.

**Caliber**—The bore-diameter designation of a rifle or pistol, usually given in hundredths or thousandths of an inch, such as .30 caliber or .300 caliber. Except for English loads, foreign ammunition caliber is designated in millimeters such as 8 mm.

**Cannelure**—Circular grooves about a bullet into which the mouth of the shell may be crimped or, in the case of cast bullets, into which is placed the lubricating grease.

**Cant**—Tilting a gun slightly to one side or the other while aiming.

**Carbine**—A short rifle, usually having a barrel 18½ to 22 inches long. Designed originally for cavalry but now popular among hunters.

**Cartridge**—A complete load including shell, primer, powder and bullet.

**Case**—Popular term among reloaders and applying to an empty rifle or handgun shell.

**Center-fire**—Refers to cartridges with primers located in the center of the base.

**Center of Impact**—The center of a group, averaged between the most widespread hits on a target. Wild shots are usually discounted.

**Chamber**—The reamed-out part of the barrel from which a cartridge is fired, hence the "firing chamber." Also applies to the holes in a revolver cylinder which hold cartridges.

**Chilled Shot**—Shot made of lead and antimony.

**Choke**—The degree of constriction of the muzzle of a shotgun barrel to govern the spread of shot. Also applied to a mechanical device which varies this degree of constriction.

**Clip**—A container holding cartridges which fits into a magazine.

**Comb**—That portion of the gunstock upon which a shooter's cheek rests while sighting. Usually raised somewhat.

**Corrosive Primers**—Primers containing potassium or other salts that are harmful to gun barrels. No longer in use generally.

**Cupronickel**—A copper-nickel alloy from which bullet jackets are made.

**Crimp**—The tight constriction of the mouth of a shell to hold a bullet in place. Also, the folding of the mouth of a paper or plastic shotgun shell to hold the shot.

**Cylinder Bore**—Cylinder bore is actually an absence of constriction of the muzzle of a shotgun muzzle. Arbitrarily, cylinder bore results in 25 to 35 per cent of a shell's shot load remaining within a 30-inch circle at 40 yards. This and other "choke" designations overlap to a great degree and are not to be relied upon until the gun is actually patterned.

**Cylinder**—A cylindrical magazine for revolvers, holding five to nine shots depending upon caliber, and which aligns itself automatically with the barrel as the hammer is cocked.

**Decapping**—The process of removing the fired primer from a rifle, pistol or shotgun shell.

**Decapping Pin**—A thin rod, located within a reloading die, which punches out a fired primer.

**Die, Loading**—A reloading implement which can be described as a female mold, which "reforms" a fired shell, prior to reloading.

**Double Action**—The firing of a revolver, and

some automatic pistols, by pulling the trigger and without benefit of manual hand cocking.

**Drift**—The deviation of a bullet from its intended course, usually caused by wind.

**Drop-at-Heel**—The pitch of shotgun or rifle stock, designated by the distance between the heel (top of the butt plate) and a line drawn from the top of the barrel straight back over the stock.

**Drop-at-Comb**—Same as drop-at-heel, except that it is measured at the comb.

**Drop Shot**—Lead shot dropped from a height through a sievelike plate, into cold water.

**Ejector**—The unit which ejects an empty shell after firing, usually automatic.

**Elevation**—Sight adjustment which raises the trajectory of a bullet to compensate for range.

**Enfield**—A .30 caliber infantry rifle used in World War I by both American and English troops. Often called the British Enfield '17.

**Energy**—The power developed by a gun charge, expressed in foot pounds.

**Erosion**—Wear within a barrel.

**Eye Relief**—The distance between the rear lens of a telescope sight and the shooter's eye.

**Exit Pupil**—By holding a telescope sight a foot or so away from the eye, you will see a concentration of light in the center of the eyepiece. This is the exit pupil.

**Expander Nipple**—Located above the decapping pin within a reloading die, this serves to expand the neck of a cartridge shell so it will accept a bullet during the reloading process.

**Extractor**—The unit which extracts a fired shell from the firing chamber.

**Field of View**—Target area and surroundings seen through a telescope sight.

**Firing Pin**—The pin which strikes the primer, discharging a gun.

**Flash-Hole**—Aperture in the base of a cartridge through which the primer ignites the charge.

**Flinch**—The tendency on the part of shooters to recoil from the expected "kick" of a gun.

**Foot Pounds**—Expression of energy generated by a gun charge. One foot pound will move a one-pound weight one foot.

**Foot Seconds**—Expression of a bullet's velocity: The number of feet a bullet will travel in one second.

**Fore-End**—The part of a gun stock located under the barrel. Also called "forearm."

**Full Choke**—The fullest constriction of a shot-

- gun barrel muzzle which will contain 65 to 75 per cent of the shot within a 30-inch circle at 40 yards.
- Garand*—A .30 caliber M-1 gas-operated semiautomatic battle weapon of the U.S. armed forces during World War II.
- Gauge*—The bore of a shotgun barrel, indicated by the number of lead balls per pound which would fit a particular barrel. For example, a 12 gauge shotgun has a bore diameter equal to that of a lead ball which would weigh 12 to the pound. This application is used on all gauges except the .410, which is the bore diameter in thousandths of an inch.
- Groove*—The spirals that are cut or pressed into a rifle or handgun barrel.
- Groove Diameter*—The diameter of a gun barrel, measured from the bottom of the grooves.
- Group*—A cluster of bullet holes in a target.
- Hammer Spur*—Thumb piece on gun hammer.
- Hammerless*—A term applying to guns which do not have visible hammers.
- Head Space*—The slack space in a ring chamber between the bullet and the walls of the chamber.
- Heel*—The upper part of the rifle or shotgun stock butt.
- Improved Modified*—Constriction of a shotgun barrel muzzle to keep 55 to 65 per cent of the shot within a 30-inch circle at 40 yards.
- Improved Cylinder*—Similar constriction, though not as pronounced, since it will keep only 35 to 45 per cent of the shot within a 30-inch circle.
- Ignition Time*—The time interval required for the primer to touch off the powder charge.
- Jacket*—The metal covering of a lead bullet to control, or eliminate, expansion of the bullet upon impact. Also reduces leading and deforming of the bullet in a barrel.
- Lands*—Barrel surfaces between the spiraling grooves in a rifled barrel.
- Lead*—The distance in front of running or flying targets or game at which a gun is fired in order for the target to "run into" the shot charge, or bullet.
- Lebel*—French military rifle caliber 8 mm.
- Lock Time*—Same as Ignition Time.
- Magazine*—Container of cartridges or shells from which they are fed into the firing chamber.
- Magnification*—Enlargement of the field of view through a telescope sight or binoculars.
- Magnum*—In rifle and handgun loads, this refers to those of unusual velocity and energy. In the case of shotgun shells, an increased number of pellets over the standard or field loads.
- Mauser*—Popular European action used for sporting and military rifles. Originated by Paul Mauser at Obendorf, Germany.
- Middle Sight*—An open sight, having a V, U or square notch and located just forward of the rifle receiver.
- Mid-Range Trajectory*—The height of a bullet's path above the line of sight halfway between the muzzle and its target.
- Minute of Angle*—Adjusting a rifle or handgun sight one minute of angle shifts the point of impact one inch at 100 yards. One minute subtends one inch at that range.
- Modified Choke*—Shotgun barrel constriction restricting 45 to 55 per cent of the shot to within a 30-inch circle at 40 yards.
- Mushroom*—Popular expression applying to the expansion of a bullet upon impact.
- Muzzle*—Exit end of a gun barrel.
- Muzzle Energy*—Actually measured a few feet in front of the muzzle, it applies to the power developed by a bullet as it leaves the barrel.
- Muzzle Velocity*—Similarly, this applies to the bullet's rate of travel as it leaves the barrel.
- Objective Lens*—The front lens in a telescope sight or binoculars.
- Pattern*—The distribution of shot, usually gauged by the number and even distribution within a 30-inch circle at 40 yards.
- Peep*—The sighting aperture in a receiver sight.
- Penetration*—The ability of a bullet to plow its way into game flesh. Experimental shooting sometimes involves a number of one-inch pine boards with penetration indicated by the number of boards pierced by the bullet.
- Pistol*—Usually applied to handguns which do not have revolving cylinders, including single-shot and automatic guns.
- Primer*—A highly sensitive explosive unit which ignites the powder charge, upon being indented by the firing pin.
- Primer Pocket*—A pocket at the center of the base of a shell where the primer is located.
- Proof Mark*—A stamping, usually on the barrel or receiver, indicating that a gun has been tested and released for sale by its manufacturer. Like western cattle brands, no two are alike.
- Pull*—The distance between the trigger and butt

- plate. Also, the weight or pressure required to release a trigger, hence "trigger pull."
- Pump**—Slide or "trombone" action, activated by pulling and pushing forward the forearm of a rifle or shotgun.
- Radius, Sighting**—The distance between the front and rear sight.
- Receiver**—That part of a rifle or shotgun which houses the bolt or breechblock and the firing mechanism.
- Recoil**—Backward reaction of a gun set up when it is discharged. Often referred to as "kick."
- Relative Brightness**—A measure of the scope sight's (or binocular's) light efficiency. Obtained by dividing the glass's power into the diameter of the objective lens and then squaring the answer.
- Rem.**—Remington.
- Resizing**—The re-forming of a shell to its original dimensions by forcing it into a die.
- Reticule**—Also spelled "reticule," this is the sighting unit within a telescope sight, generally a pair of cross hairs, post or a dot, or a combination of these.
- Revolver**—A handgun having a revolving cylinder which turns as the trigger is pulled or the hammer cocked.
- Rib**—A metal sighting plane atop a shotgun barrel, sometimes used on double-barrel shotguns.
- Rifle**—A shoulder arm having spiraling grooves cut or pressed into the inner surfaces of the barrel.
- Rim-Fire**—A cartridge having the primer within a thin rim about the base of the cartridge.
- Rimless**—A cartridge case having a recessed rim which is flush with the sidewalls. It is *not* actually rimless.
- Sav.**—Savage
- Sear**—Holds the hammer or striker in firing position after cocking.
- Seating, Bullet**—The process of inserting a bullet into the mouth of a shell during reloading.
- Sectional Density**—Technical term applying to a bullet's diameter in relation to its length.
- Semiautomatic**—A gun which fires and reloads one shot automatically with each pull of the trigger.
- Shell**—Cartridge container, sometimes called a hull or case.
- Single Action**—Applies to revolvers which must be cocked manually before each shot.
- Sizing**—Same as resizing.
- Skeet**—A shotgun shooting course, requiring 25 shots from varying positions at clay targets projected by two mechanical traps set at different heights.
- Slide Action**—Same as pump action.
- Slug, Rifled**—A solid shotgun missile, designed for use on deer and black bear primarily. Grooves, corresponding to the rifling in a rifle barrel, are cast along its sides.
- Smoothbore**—A shotgun barrel which has no rifling on its interior surfaces.
- Springfield**—The .30/06 military rifle used in World Wars I and II, named after the Springfield, (Mass.) armory, although it was also manufactured at the Rockford, Ill., armory.
- S & W**—Smith and Wesson.
- Swaging, Bullet**—The cold forming of bullets from soft lead wire or slugs by forcing them into a swaging die.
- Tracer**—A bullet which burns in flight, indicating its trajectory to the shooter. Primarily of military value.
- Trajectory**—A bullet's path of flight.
- Trapshooting**—A shotgun shooting course, fired from five different positions at 16 yards from a single trap which may project clay birds at unexpected angles.
- Trombone Action**—Same as slide or pump action.
- Twist**—The number of inches required for one complete spiral of the grooves in a rifled barrel. For example, a 1-in-12 twist, indicates a complete spiral every 12 inches.
- Varminter**—A flat-shooting, long-range rifle adapted to the shooting of "varmints," usually equipped with a scope and special stock and possibly a semi-heavy barrel for greater accuracy.
- Wad**—Circular disc used in shotgun shells to separate powder and shot compartments. Also used as a filler.
- Wadcutter**—A low-velocity target type of bullet with a flat nose, known for the neat round holes it cuts in paper targets.
- W.C.F.**—Winchester Center-fire.
- Win.**—Winchester.
- Windage**—Lateral adjustment of rear sights to compensate for bullet drift.
- W.R.F.**—Winchester Rim-fire.
- X**—Scope-power designation symbol, for example: 4X indicates four power.
- X-Ring**—A ring within the bull's-eye of a target. Tie scores are broken by counting the number of hits within the "X-ring."
- Zero**—Range at which a rifle is sighted.

