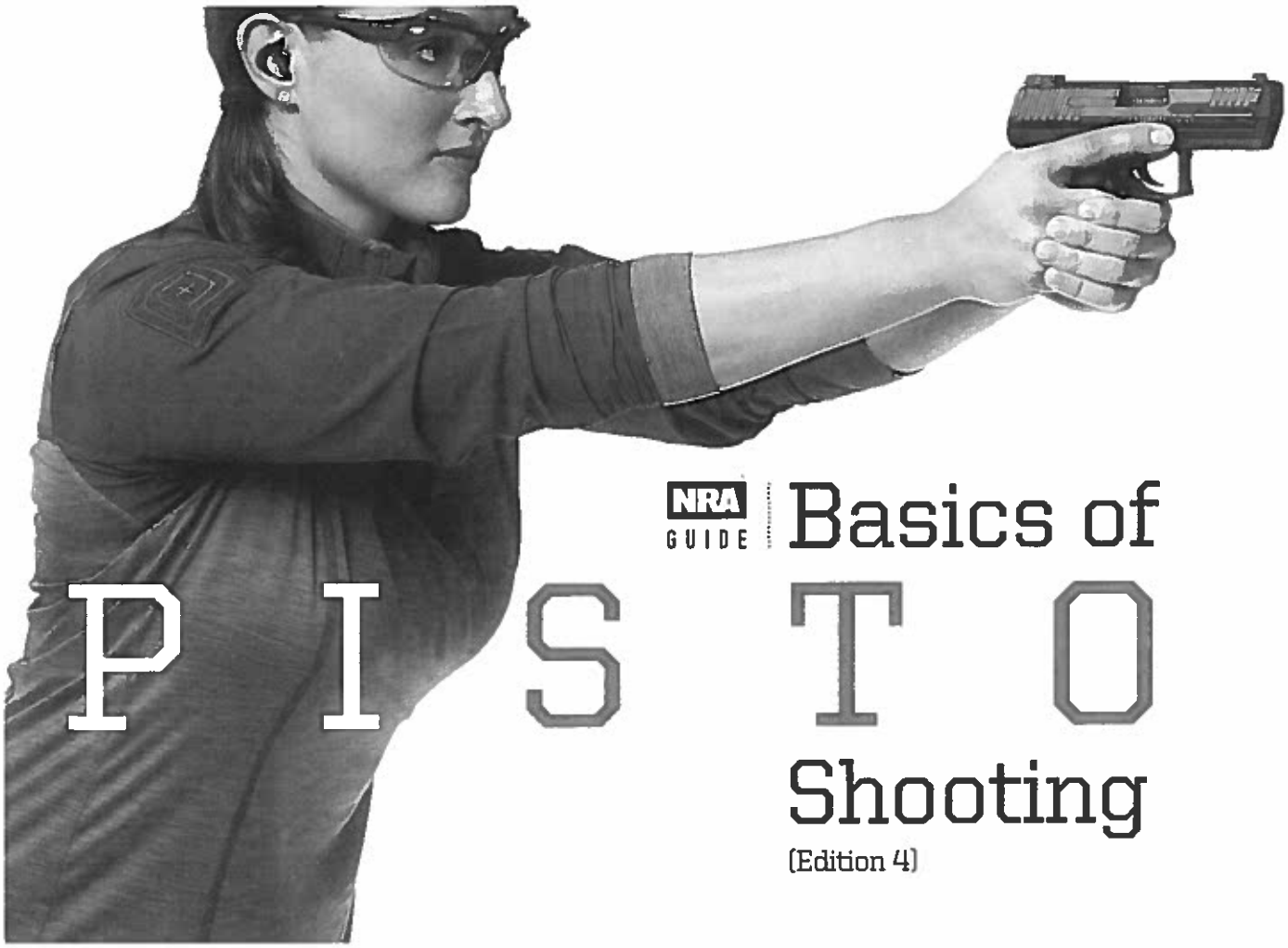
NRA GUIDE Basics of Pistol Shooting



NRA GUIDE

Basics of PISTOL Shooting

(Edition 4)

NRA

THE NRA SAFE GUN OWNER PLEDGE

I hereby assume the responsibility to shoot, store, handle and maintain my firearms in a safe and responsible manner at all times, following the basic rules of safe gun handling outlined in this book:

1

I will always keep the gun pointed in a safe direction.

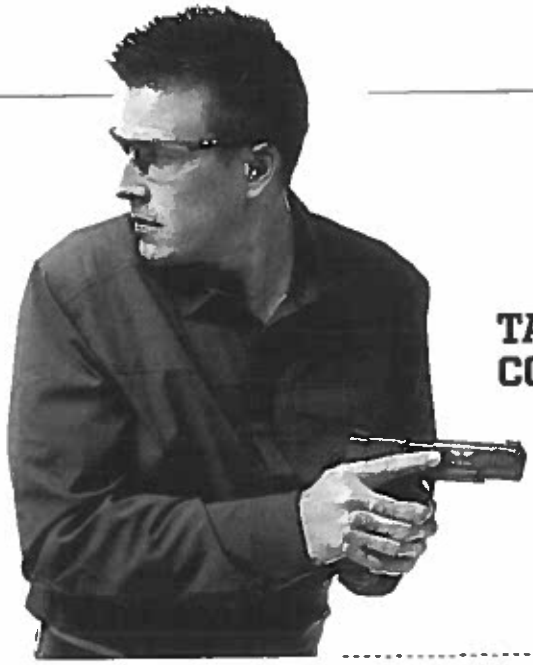
2

I will always keep my finger off the trigger until ready to shoot.

3

I will always keep the gun unloaded until ready to use.

Name



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This manual is under no circumstances to be viewed as a restatement of the law in any jurisdiction or to assure compliance with any applicable federal, state or local laws, ordinances, rules or regulations. You must consult a local attorney to ascertain compliance with all applicable federal, state or local laws, ordinances, rules or regulations and to advise

you of the applicable duty of care required of firearms instructors in your jurisdiction.

Instructors should consult with their attorneys for advice on reducing their potential liability for injuries or damages which students or others may incur while learning to use pistols safely, or as a result of other activities. The effectiveness of theories of liability (e.g., strict liability, negligence and others) and methods for protecting oneself from liability (e.g., incorporation, waivers and others) vary between different jurisdictions, and the attorney consulted should be familiar with the law of the applicable jurisdiction.

Discharging firearms in poorly ventilated areas, cleaning firearms, or handling ammunition or lead-containing reloading components may result in exposure to lead. Have adequate ventilation at all times. Wash hands with water after exposure.

Great pains have been taken to make this book as complete as possible; however, it is designed to be used in conjunction with the classroom and firing range instruction of the NRA Basic Pistol Shooting Course. Reading this guide is not, in itself, sufficient to confer proficiency in pistol shooting, safety and maintenance. The reader of this book should obtain additional knowledge and hands-on training. **Visit nrainstructors.org for more information.**

SAFETY NOTES

The NRA's first and most fundamental Rule for Safe Gun Handling is to ALWAYS keep the gun pointed in a safe direction. This rule must always be observed; it cannot be relaxed even for legitimate education or training purposes. Absolute, unvarying adherence to this most important of gun safety rules cannot be overemphasized.

In some of the photographs in this book that illustrate specific shooting stances or positions, it was sometimes necessary, for instructional purposes, to position the camera forward of the parallel line with the gun. Extreme measures were taken to ensure the safety of the individuals involved. Please do not attempt to duplicate these conditions or photographs.

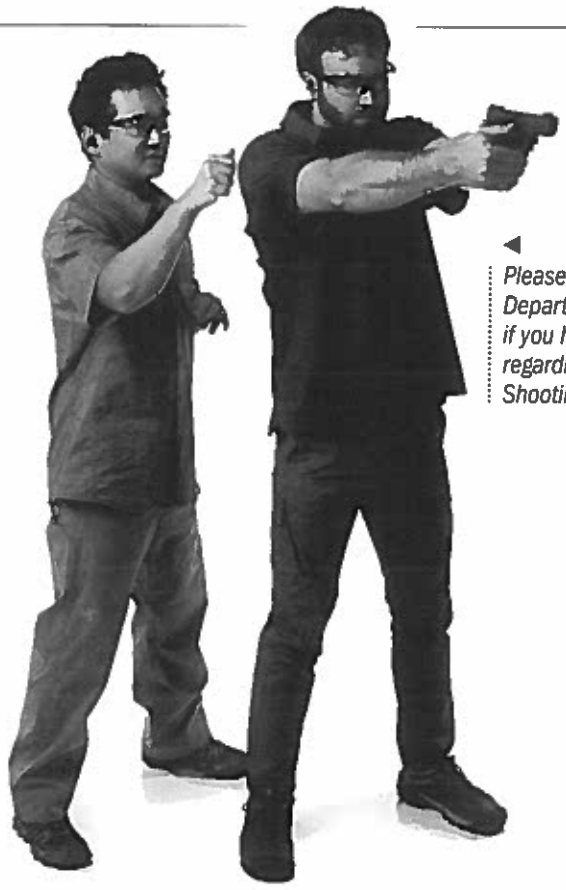
A Gun Owner's Responsibilities

Americans enjoy a right that citizens of many other countries do not–the right to own firearms. But with this right come responsibilities. It is the gun owner's responsibility to handle his or her firearms safely. And it is the gun owner's responsibility to learn and obey all applicable laws that pertain to the purchase, possession and use of a firearm in his or her locale.

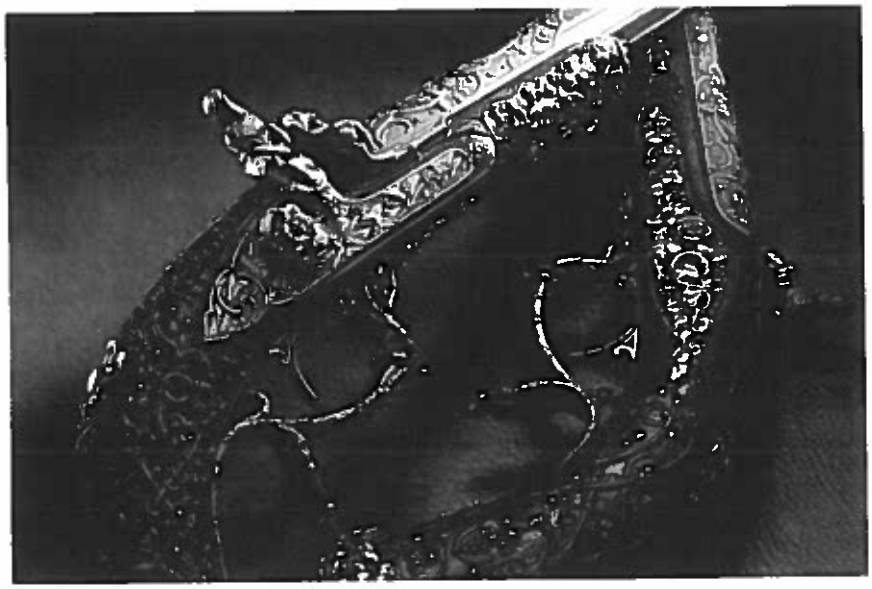
What you should expect when you attend the NRA Basics of Pistol Shooting Course

The course goal is to teach the basic knowledge, skills, and attitude for owning and operating a pistol safely.

You should expect both classroom and range time, learning to shoot revolvers and semi-automatic pistols. You will learn NRA's rules for safe gun handling; pistol parts and operation; ammunition; shooting fundamentals; range rules; shooting from the bench rest position and two handed standing position; cleaning the pistol; and continued opportunities for skill development. To earn a certificate, you should be able to consistently shoot five-shot groups within a four-inch circle from 10-15 feet prior to earning a certificate. Students will receive the *NRA Guide: Basics of Pistol Shooting* handbook, take a Basics of Pistol Shooting Student Examination and receive a course completion certificate.



Please contact the NRA Training Department at basicpistol@nrahq.org if you have any comments or concerns regarding your NRA Basic Pistol Shooting course.



Two 18th century presentation pistols from the renowned gunmaker Gastinne-Renette, one of the most famous gunmakers in Paris. With the ascension of Emperor Napoleon III in 1852, Gastinne-Renette became a regular supplier to the restored imperial household. Photo courtesy the NRA National Firearms Museum in Fairfax, Va.

GETTING STARTED

The word "pistol" may have come from the name of a small town, Pistoia, in northern Italy, where handguns were manufactured in the 15th and 16th centuries.

However, some scholars attribute its origin to the Russian word for a 15th-century matchlock gun: *pischol*. Other researchers believe that the word may derive from the Czech word *pistala*, or pipe. Regardless of the true origin of the term, a common definition today for the word "pistol" is "a gun that has a short barrel and can be held, aimed and fired with one hand."

Many different types of pistols exist, including revolvers, semi-automatics, muzzleloaders, hinge-actions, bolt-actions and air pistols. Although the word pistol is frequently associated with semi-automatic handguns, it is proper to use pistol to refer to all types of handguns.

This book will deal primarily with the two types of pistols in most common use today: the revolver and the semi-automatic.

Although muzzleloading pistols are not covered in this book, the sport of shooting these unique guns has increased in popularity. To learn about muzzleloading pistols, see the NRA How-To Series publication *Muzzleloading*.

Air pistol shooting is also a very popular activity. This type of shooting can provide a wide variety of recreation and sport opportunities, from shooting in a basement or backyard range to competing in the Olympic Games. For information on air pistols, visit: **homeairgun.nra.org**.

Americans own pistols today for many different reasons. Some people compete in the various types of pistol shooting matches held throughout the country, including those held at the collegiate and Olympic levels. Others own pistols for personal protection. Hunters, too, have found that the use of a pistol to take game can be a challenging and exciting experience, and nearly all of the 50 states allow pistol hunting.

A new shooter will quickly discover that pistol shooting is fun! It is a sport that requires good hand/eye coordination, mental concentration and discipline. The purpose of this book is to teach the safe and proper use of a pistol so that it can be enjoyed to the fullest extent.

The main focus of the *NRA Guide: Basics of Pistol Shooting* is on helping the reader develop the knowledge, skills and attitude to safely and effectively handle and fire a pistol. Included are chapters on ammunition and pistol types; selecting ammunition, pistols and accessories; gun handling; shooting positions; and pistol shooting activities. These and other topics presented in this book form the core knowledge and skills used in all pistol shooting activities, from informal recreational shooting through hunting, competition and self-defense.

Although this book has a wealth of information on many aspects of pistol use, it is meant to be used within the framework of the NRA Basics of Pistol Shooting course. You should understand that merely reading a book–any book–will not, in and of itself, make you proficient in handling and using a pistol.

For more information on the NRA Basics of Pistol Shooting course or any other NRA course, visit nrainstructors.org.

The Next Step In Your Training

After completing NRA Basic Pistol, take the next step by signing up for an NRA CCW course. While not for beginners, this course is as rewarding as it is challenging, and will prepare you to carry your firearm with confidence and competence.

S A F

NRA GUIDE | Basics of Pistol Shooting

E T Y

SECTION 01

CHAPTER 1:
Basic Firearm Safety

CHAPTER 2:
Safe Firearm Storage

CHAPTER 1:

BASIC FIREARM SAFETY

Safety is fundamental to all shooting activities. Whether you're practicing at the range, hunting in the field, or cleaning your gun in your workshop, the rules of firearm safety always apply.

Safe gun handling involves the development of knowledge, skills and attitude–knowledge of the gun safety rules, the skill to apply these rules, and a safety-first attitude that arises from a sense of responsibility and an understanding of potential dangers.

Most gun accidents are caused by ignorance and/or carelessness. Ignorance is a lack of knowledge–a person who handles a gun without knowing the gun safety rules or how to operate the gun is exhibiting a dangerous lack of knowledge. Equally dangerous is the person who, although knowing the gun safety rules and how to properly operate a gun, becomes careless in properly applying this knowledge. In both of these cases, accidents can easily happen. But when people practice responsible ownership and use of guns, accidents don't happen.

Though there are many specific principles of safe firearm operation, all are derived from just three basic safe gun handling rules.

FUNDAMENTAL RULES FOR SAFE GUN HANDLING:

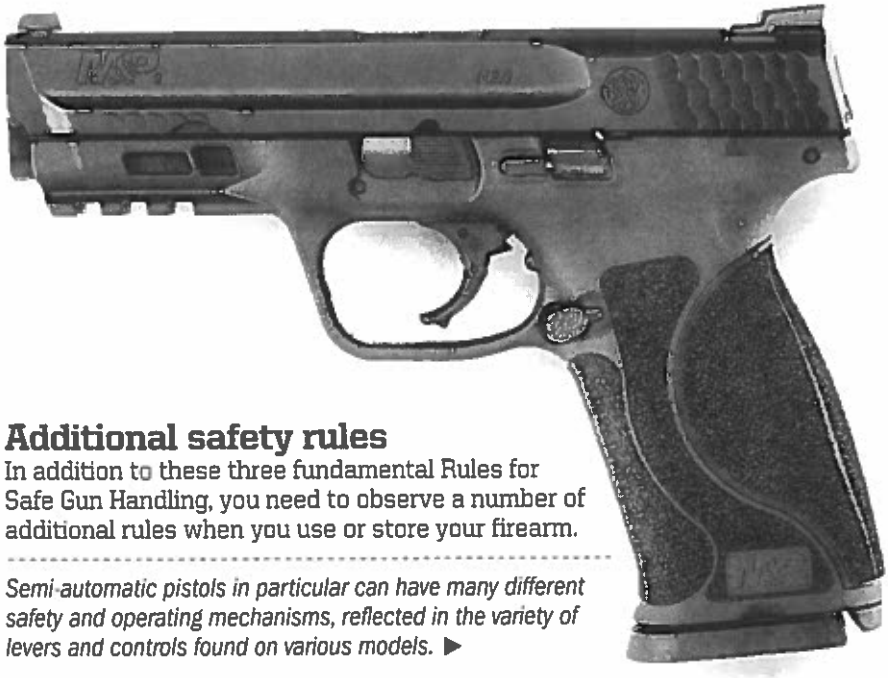
1 **ALWAYS keep the gun pointed in a safe direction.** This is the primary rule of gun safety. A safe direction means that the gun is pointed so that even if it were to go off, it would not cause injury or damage. The key to this rule is to control where the muzzle or front end of the barrel is pointed at all times. Common sense dictates the safest direction, depending upon the circumstances. At the range, a "safe direction" is downrange. If only this one safety rule were always followed, there would be no injuries or damage from unintentional discharges.

Keeping a firearm pointed in a safe direction is relatively easy with a long gun, such as a rifle or shotgun, as the longer barrel promotes muzzle awareness. The shorter length of the typical revolver or semi-automatic, and its ability to be held and fired in one hand, require that the shooter be even more conscious of where the gun is pointing.

2 **ALWAYS keep your finger off the trigger until ready to shoot.** Your trigger finger should always be kept straight, alongside the frame and out of the trigger guard, until you have made the decision to shoot. Unintentional discharges can be caused when the trigger of a loaded gun is inadvertently pressed by a finger left in the trigger guard instead of being positioned straight along the side of the gun's frame.

3 **ALWAYS keep the gun unloaded until ready to use.** A firearm that is not being used should always be unloaded. For example, at the range, your firearm should be left unloaded with the action open while you walk downrange to check your target. Similarly, a firearm that is stored in a gun safe or lock box should be unloaded (unless it is a personal protection firearm that may need to be accessed quickly for defensive purposes).

As a general rule, whenever you pick up a gun, point it in a safe direction with your finger off the trigger, engage the safety (if the gun is equipped with one), remove the magazine (if the gun is equipped with a removable magazine), open the action and visually and physically inspect the chamber(s) to determine if the gun is loaded or not. Unless the firearm is being kept in a state of readiness for personal protection, it should be unloaded. If you do not know how to open the action or inspect the firearm, leave the gun alone and get help from someone who does. Further information on pistol mechanisms will be presented in Part II: Pistol Mechanisms and Operation.



Additional safety rules

In addition to these three fundamental Rules for Safe Gun Handling, you need to observe a number of additional rules when you use or store your firearm.

Semi-automatic pistols in particular can have many different safety and operating mechanisms, reflected in the variety of levers and controls found on various models. ▶

Know your target and what is beyond.
Whether you are at the range, in the woods, or in a self-defense situation, if you're going to shoot you must know what lies beyond your target. In almost all cases, you must be sure that there is something that will serve as a backstop to capture bullets that miss or go through the target. Even in an emergency, you must never fire in a direction in which there are innocent people or any other potential for mishap. Think first, shoot second.

Know how to use the gun safely.
Before handling a gun, learn how it operates. Read the owner's manual for your gun. Contact the gun's manufacturer for an owner's manual if you do not have one. Know your gun's basic parts, how to safely open and close the action, and how to remove ammunition from the gun. No matter how much you know about guns, you must always take the time to learn the proper way to operate any new or unfamiliar firearm. Never assume that because one gun resembles another, they both operate similarly. Also, remember that a gun's mechanical safety is never foolproof. Guidance in safe gun operation should be obtained from the owner's manual or a qualified firearm instructor or gunsmith.

Knowing how to use the gun safely is especially important with pistols, as there is a multitude of different types of pistol mechanisms, each with its own specific operating procedure. Most long guns of a particular type (such as bolt-action rifles or pump-action shotguns) work in essentially the same way, allowing an individual familiar with one model to be likely to know how to operate another of the same type. This cannot always be said of pistols, particularly semi-automatic pistols.

Be sure your gun is safe to operate.
Just like other tools, guns need regular maintenance. Proper cleaning and storage are a part of the gun's general upkeep. If there is any question regarding a gun's ability to function, it should be examined by a knowledgeable gunsmith. Proper maintenance procedures are found in your owner's manual.

Use only the correct ammunition for your gun.
Each firearm is intended for use with a specific cartridge. Only cartridges designed for a particular gun can be fired safely in that gun. Most guns have the ammunition type stamped on the barrel and/or slide. The owner's manual will also list the cartridge or cartridges appropriate for your gun. Ammunition can be identified by information printed on the cartridge box and usually stamped on the cartridge head. Do not shoot the gun unless you absolutely know you have the proper ammunition.

Using only the correct ammunition for your gun is of special importance with pistols, as there are some pistol cartridges that have several names. Moreover, there are a number of different cartridges which have the same external dimensions, and thus fit in the same firearm chamber, but produce strikingly different operating pressures. Furthermore, even for the same cartridge there may be loadings having varying levels of pressure and performance. These higher-pressure loads (often marked +P or +P+) must be used only in a firearm designed for them.

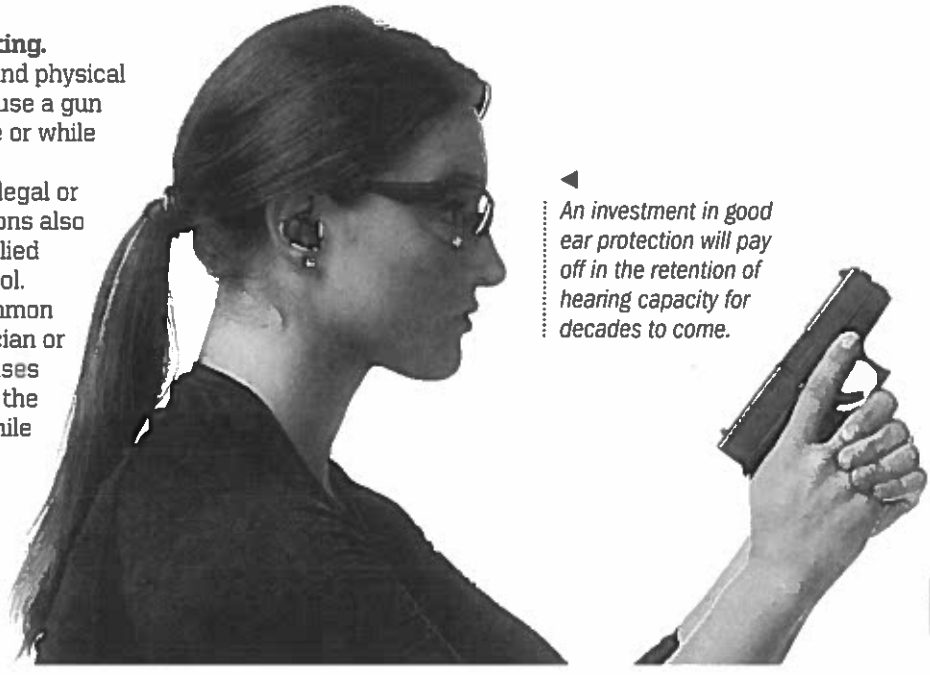
Some pistol cartridges come in loads that have the same external dimensions but operate at different pressure levels. The gun owner must know which of these loads are safe to fire in his or her gun.

Wear eye and ear protection as appropriate.
The sound of a gunshot can damage unprotected ears. Gun discharges can also emit debris and hot gas that could cause eye injury. Thus, both ear and eye protection are highly recommended whenever you are firing live ammunition in your gun. Safety glasses and ear plugs or muffs should also be worn by any spectators or shooting partners present during live-fire sessions.

Never use alcohol or drugs before or while shooting.
Alcohol and many drugs can impair normal mental and physical bodily functions, sharply diminishing your ability to use a gun safely. These substances must never be used before or while handling or shooting guns.

Note that these effects are produced not just by illegal or prescription drugs. Many over-the-counter medications also have considerable side effects, which may be multiplied when certain drugs are taken together or with alcohol. Read the label of any medication you take, even common non-prescription medications, or consult your physician or pharmacist for possible side effects. If the label advises against driving or operating equipment while taking the medication, you should also avoid using a firearm while taking it.

Store guns so they are inaccessible to unauthorized persons.
It is your responsibility as a gun owner to take reasonable steps to prevent unauthorized persons (especially children) from handling or otherwise having access to your firearms. You have a number of options for accomplishing this, which are discussed in greater detail in Chapter 2: Safe Firearm Storage. The particular storage method you choose will be based upon your own particular home situation and security needs.



An investment in good ear protection will pay off in the retention of hearing capacity for decades to come.

Be aware that certain types of guns and many shooting activities require additional safety precautions.
There are many different types of firearms, some of which require additional safety rules or procedures for proper operation. These are commonly found in your firearm's owner's manual. Also, most sport shooting activities have developed sets of rules to ensure safety during competition. These rules are generally sport-specific; the procedures for loading your firearm and commencing fire, for example, are different in NRA bullseye shooting than in NRA Action Pistol competition (see Chapter 17: Pistol Shooting Activities and Opportunities for Skill Development). Check with the individual sports for a complete set of governing rules.

Different sanctioning bodies for competitive shooting require different loading techniques.

NOTES

CHAPTER 2:

SAFE FIREARM STORAGE

Radio-frequency identification (RFID) safes *use electromagnetic fields to identify authorized devices that will automatically open the safe, such as wristbands, key fobs and stickers. Conventional key backups ensure operation in the event of power loss.* ◀

Safe gun storage is an integral part of gun safety, and one of your prime responsibilities as a gun owner. By storing your guns safely, you not only avoid the possibility of an accidental shooting involving a child or other untrained person; you may also prevent a criminal from using your firearm against an innocent person. In addition, some jurisdictions have laws mandating secure firearm storage, and almost all jurisdictions have criminal negligence laws that can be applied to gun owners who do not take reasonable precautions in storing their firearms. A gun owner may also be liable to a civil lawsuit in the event that his or her unsecured gun is stolen and subsequently used during the commission of a crime.

Any firearm storage method chosen must provide an adequate level of protection to prevent unauthorized persons from accessing the guns. The determination of what is "adequate protection" is a matter of judgment on the part of the gun owner, and will vary with the situation. Also, the storage method or device used must allow any gun used for self-defense to be retrieved as needed to repel an intruder or an attack. Be aware that storage methods that provide a high level of security often do not allow quick and easy firearm access. Additionally, a gun storage device should provide some level of concealment. A gun that is not seen is less likely to be stolen. Concealment is achieved by storing the gun in a location or a device where it is hidden.

There is no one best method of gun storage nor one best type of locking or storage device. Each has advantages and limitations. You must choose the firearm storage method that is best for you, given your circumstances and preferences. It is also incumbent upon you as a responsible, law-abiding gun owner to know and observe all applicable state and local laws regarding safe gun storage.

TYPES OF LOCKING MECHANISMS

All storage methods designed to prevent unauthorized access utilize some sort of locking mechanism. Different types of locking mechanisms offer varying degrees of security and accessibility.

Keyed locks, such as padlocks and the lockable drawers of desks and nightstands, can offer a certain level of security (depending upon the construction of the lock and the storage device). However, under stress or in darkness it may be difficult for some to locate the correct key or to manipulate it in the lock.

Combination locks are often found on gun storage boxes, and range from simple triple-rotary-tumbler models to units that rival the mechanisms found on bank vaults. For many people, combination locks are both secure and familiar to use. Under stress, however, lock combinations can be confused or forgotten by the gun owner, and the tumblers can be challenging to manipulate quickly and accurately. Also, in darkness or dim light, combination locks can be virtually impossible to operate.

Simplex®-type locks provide a good combination of security and quick access. Such locks feature a number of buttons that are pushed in a specific order to open the device. With only minimal practice, these locks can be easily worked in total darkness. Locks having Simplex®-type mechanisms can be just as strong and tamper-resistant as any other.

Another advantage of a Simplex® lock is that incorrect entry blocks any further attempt to open the lock. A separate clearing code must be entered before the lock will accept the correct combination, making this lock even more resistant to unauthorized attempts to open it.

The basic Simplex®-type lock is a mechanical lock, and thus does not depend upon house current or batteries. Some locking devices combine Simplex® principles with modern electronics. Typically, such a storage device features a numeric keypad whose numbered buttons are pushed in a specific order to unlock.

A variation on this involves **four or five number pads**, ergonomically placed on the top or front of the device, which can easily be felt in the dark and which are pressed in a sequence (such as thumb, middle finger, little finger, ring finger) to open the device. Such locking mechanisms are often disabled when electric power is lost (as from dead batteries or a failure in house current). There usually is a provision for opening the box with a key under such circumstances, but this could be problematic under stress or in the dark. Some units that use house current have provisions for a backup battery power supply to ensure continuous operation.

A new type of gun storage device uses **biometrics** to control access. The most common type of this device features a computer-controlled fingerprint reader to activate unlocking. Though this technology is promising, there are still issues to be resolved regarding reliability of the reader to distinguish a fingerprint under a wide variety of circumstances.

TYPES OF STORAGE DEVICES

There are many different methods for storing firearms safely inside and outside the home.

Gun cases are commonly used for the transportation and storage of firearms. Gun cases are typically of synthetic material, though some more costly models are made of aluminum. Some have integral locks; others feature hasps for small keyed or combination padlocks.

Gun cases can be used to transport a gun by air or other common carrier, or in a vehicle. Note that federal law protects lawful transportation of firearms across state lines and specifies that a gun in a vehicle must be in a "locked container" (such as a gun case) when it cannot be transported in a compartment separate from the driver's compartment, and some states also have additional requirements for transporting guns within their boundaries. In the home, gun cases serve to protect firearms from dust and moisture.

A **pistol lockbox** allows you to store a gun so that it is protected from unauthorized access but can still be retrieved quickly. Typically, such boxes are made of steel (thus offering more security than plastic gun cases) and feature integral keyed, combination or Simplex®-type locks. A few have electronic numeric keypads or fingerpads for quick access.

Gun safes are designed to offer the greatest level of security for your guns. Upper-end models provide walls and doors that are virtually impossible to defeat by brute force, high-security mechanical or electronic locks, and complex locking patterns that fasten the door to the frame in multiple locations with thick, hardened steel pins. Most of these models are too heavy and bulky for thieves to carry away easily, even when they are not bolted to the floor; some also offer a degree of fire protection.

Although appropriate for permanent firearm storage, gun safes may not be the best choice for the temporary storage of guns that may need to be quickly retrieved, as their opening procedure is often lengthy and noisy. Also, they provide little concealment value. No matter where a gun safe is put, almost anyone seeing it will recognize it as a device for the storage of firearms or other valuable items, making it a target for thieves and burglars.

Alternatively, a gun may be stored in a **lockable drawer** of a desk, nightstand, file cabinet or the like. Since it is easy for a gun owner to forget to lock such devices, and also since they may be easily forced open, the decision to store a gun in this manner must be reached only after a careful consideration of the circumstances, needs and risks involved.

Another alternative form of storage is a **lockable gun rack** allowing firearms (particularly long guns) to be displayed or stored openly. Since these devices do not offer either concealment or protection from moisture, dust or fingerprints, they are best mounted in a locked gun closet or safe.

STORING A GUN SAFELY IN THE HOME

There are two types of home gun storage, each with benefits and limitations. Long-term gun storage involves the extended storage of firearms in a device offering a high degree of protection from theft and sometimes fire and moisture, but often at the expense of delayed access to the firearm. A gun safe is typically used

▲

Gun cases *can be used to transport or ship firearms by air or in vehicles. They are most often made from polymer or sometimes aluminum; most will accept locks from a hardware store.*

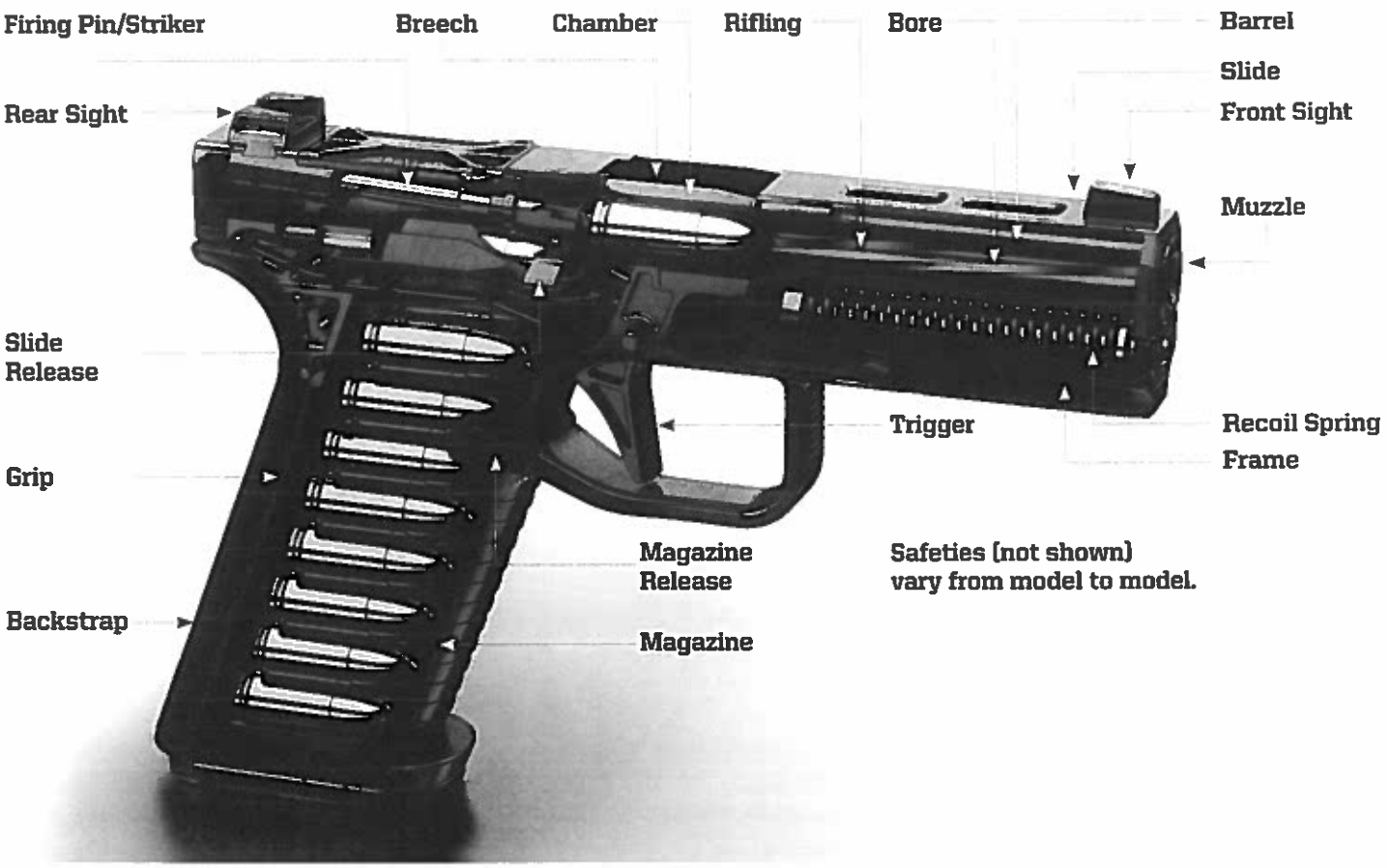
◀

Fingerpad-type locking devices *involve five fingerpads, ergonomically placed on the top or front of the device, which can easily be felt in the dark and which are pressed in a sequence (such as thumb, middle finger, little finger, ring finger) to open the device. Key provides manual override.*

Knowing Your

SECTION 02

TOOL


Firing Pin/Striker
Breech
Chamber
Rifling
Bore
Barrel
Slide
Rear Sight
Front Sight
Muzzle
Slide Release
Trigger
Recoil Spring
Frame
Grip
Magazine Release
Safeties (not shown) vary from model to model.
Backstrap
Magazine

Semi-Automatic Pistol Components

While the location and function of some features will vary, nearly all semi-automatic pistols share these components, or a variation of them. Revolvers add a cylinder to hold cartridges, instead of a magazine.

Pistol Components

All pistols share a number of similar components, including a trigger mechanism that releases a spring-powered hammer or striker to fire the cartridge. (Technically, cartridge ignition occurs as a result of the strike of the **firing pin**, which may be integral with the hammer or striker, or a separate piece that is pushed forward by the **hammer** or **striker**). Virtually all pistol actions have one or more safety mechanisms. In addition, specific action types have a variety of components to close and/or lock the breech: a slide in semi-automatic pistols, a bolt in bolt-action pistols, and so on. In revolvers, the breech is closed not by a separate component, but by a part of the frame called the recoil shield.

Revolver actions also include the cylinder, which has chambers that hold the cartridges, as well as the mechanism used for cylinder rotation.

The central component of most pistols is the **frame**, which contains the action parts, and to which are attached the stocks or grips and the barrel or barrels. Modern pistol frames are made of steel, aluminum, titanium and, ever more frequently, polymer materials.

The **barrel** is a tube through which the bullet is propelled. In pistols, this is usually made of steel, and the hole through the tube, the **bore**, has spiral rifling, which spins the bullet for stability and accuracy. **Rifling** is formed by creating shallow **grooves** in the bore surface; the slightly raised areas between the grooves are called the **lands**. At the rear, the bore enlarges to form the **chamber**, which accepts a particular cartridge. The forward end of the barrel is the **muzzle**. Most pistol barrels range from 2" to 15", but may be any length.

Many modern semi-autos also have **loaded chamber indicators**. The simplest type consists of a notch machined into the top rear of the chamber which allows the cartridge rim to be seen, if present, in the chamber. Checking for a loaded chamber/firearm in these systems requires adequate light to see down into what is generally a small opening. Alternative methods overcome this low-light/no light deficiency by being both visual and tactile. These systems use either an independent lever, or add a small amount of material to the external part of the extractor so that they protrude above the surrounding surface of the slide when a cartridge is in the chamber.

Trigger is a term used to denote both the entire mechanism that releases the part of the action (most commonly a hammer or striker) that causes the cartridge to be ignited, as well

Typical semi-automatic pistol, left side, with major components indicated.

CHAPTER 4:

SEMI-AUTOMATIC PISTOL PARTS AND HOW THEY WORK

In general, semi-automatic firearms utilize the pressure generated by the ignition of the cartridge to perform the cycle of operation.

Semi-automatic pistols consist of a frame, on which is mounted a slide which can freely move in the fore-and-aft direction on rails in the frame. In some designs the barrel is fully contained within the slide, and in others it is rigidly attached to the frame, with the slide positioned to its rear. In both designs, a vertical face (breech face) on the slide abuts the chamber end of the barrel. On locked-breech designs, the barrel locks to the slide by way of lugs that enter recesses in the slide, by the physical interference of a shoulder on the barrel with the rear edge of the ejection port of the slide, or other methods. The slide also houses the firing pin and extractor, while a fixed frame-mounted ejector is the most common means of ejection. An ejection port in the slide provides a means for empty shells to exit the action. Ignition is by either an external hammer, an internal hammer, or a spring-loaded striker or firing pin.

Typical semi-automatic pistol with slide retracted.

Semi-automatic pistol, right side, with ejection port and extractor indicated.

Types of semi-automatic pistol mechanisms

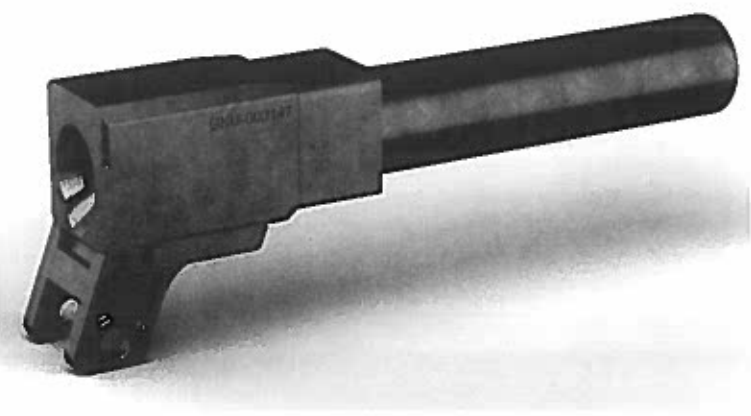
There are generally three types of semi-automatic actions:

1. In **Blowback-Operated** semi-automatic pistols, the action is not mechanically locked, and the weight of a heavy slide, plus a strong recoil spring, is all that keeps the action closed. Upon firing, chamber pressure created by cartridge ignition pushes the slide rearward, compressing the recoil spring. The inertia of the slide, aided by spring resistance, keeps the action closed long enough for pressure in the chamber and bore to drop to a safe level. Blowback designs are generally restricted to pistols firing low-powered cartridges (typically .22 LR, .25 ACP, .32 ACP and .380 Auto).

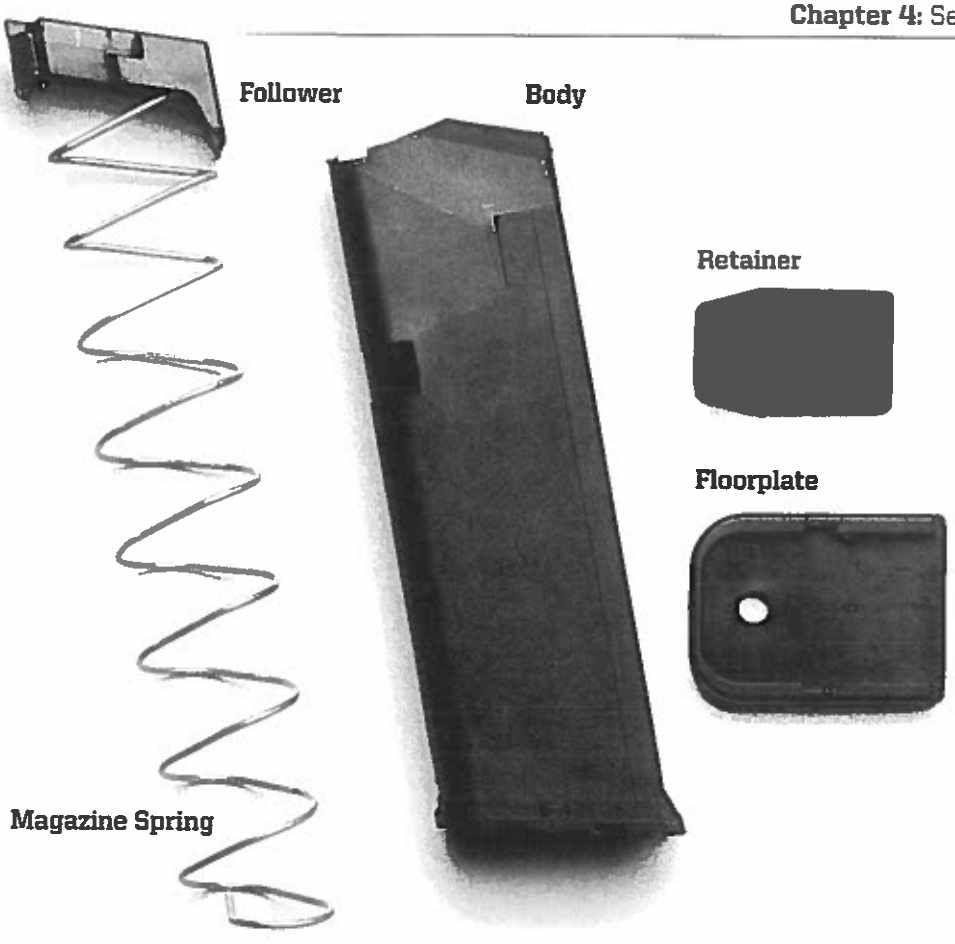
2. In **Recoil-Operated** semi-automatic pistol actions, when the action is closed, the barrel is locked to the slide. Upon firing, the barrel and slide recoil rearward together for a distance before the barrel unlocks and allows the slide to travel further rearward to complete the cycle.

Most self-loading pistols chambered for cartridges of the power of the 9 mm Para or greater use recoil-operated actions. There are many mechanical designs for both locking and unlocking the actions of such pistols.

3. In **Gas-Operated** actions, high-pressure propellant gas is bled from the bore through a small hole in the barrel. This, in turn, exerts pressure on a piston or other component, driving it rearward to unlock the breech and work the action.



Some recoil-operated semi-automatic pistols lock to the slide by way of lugs on the barrel that fit into grooves in the slide. Alternatively, in many modern designs a shoulder on the chamber end of the barrel engages the edge of the ejection port in the slide to lock the two parts together. Angled cam surface on barrel underlug (RIGHT) engages crosspin in frame to lower the rear of the barrel out of lockup with the slide as the two parts recoil rearward together.



◀

Semi-Automatic Pistol Magazines
Most semi-automatic firearms utilize detachable box magazines, which afford one of the main advantages of such arms: rapid reloading.

Box magazines typically have a steel, aluminum or plastic body which houses the cartridges and the magazine's internal components. At the bottom of the magazine is a floorplate, usually of the same material. This is often removable to allow magazine cleaning. Inside the magazine are the magazine spring and follower, which together push the cartridges in the magazine upward into position for reliable feeding.

Semi-Automatic Trigger Mechanisms
Modern semi-automatic pistols can achieve ignition by way of external or

internal hammers, or by a spring-powered striker or firing pin that is held to the rear by the sear or trigger bar. Semi-automatic pistols also incorporate some sort of disconnector mechanism, which requires that the trigger be released and then re-pressed each time a shot is fired. This prevents the gun from firing repeatedly, like a machine gun, when the trigger is pulled and held back.

Single-Action and Double-Action Semi-Automatic Trigger Systems

Contemporary semi-automatic pistols can be divided into categories by the manner in which their triggers operate.

Single-action semi-automatics require the hammer to be cocked manually for the first shot; the reciprocating slide cocks the hammer for all subsequent shots. Single-action semi-automatics offer the same short, crisp and relatively light trigger pull for the first shot and for all subsequent shots.

An alternative to the single-action semi-automatic is the traditional double-action pistol, which may also be described as a double/single action. In this type of mechanism, the first shot is fired with the hammer down, in the double-action mode–i.e., a long, relatively heavy trigger pull both cocks and releases the hammer–and subsequent shots are fired in the single-action mode. This allows the gun to be carried safely with a cartridge in the chamber and the hammer lowered, giving a rapid first shot.

Some pistol users–particularly in law enforcement–wanted the rapid reloading and increased ammunition capacity of the semi-automatic, combined with the long, heavy pull of the double-action revolver. This pull was considered to be less conducive to an unintentional discharge than the short, light pull of the single-action or traditional double-action pistol. This led to the development of double-action-only (DAO) semi-automatics, which, as their name implies, require a long double-action pull for every shot.

In addition to the broad categories above, a number of other pistol types incorporate novel designs, many of which seek to combine the fast and accurate first shot capability afforded by a single-action trigger pull with the safety of hammer-down carry. Some of these pre-cock a hammer or internal striker, giving a "semi-double-action" pull for the first shot. A few designs can be fired in both the single-action and traditional double-action modes, affording the gun owner a choice of trigger types.

▶

Semi-Automatic Safeties

Semi-automatic pistols feature a variety of different safety mechanisms, including (l. to r.) slide-mounted decockers, frame-mounted safeties, and trigger safeties.

Semi-Automatic Safety Mechanisms

Semi-automatic pistol safety systems can assume a dizzying variety of forms. Probably the most familiar are the pivoting thumb levers located on the frame or slide. These are sometimes located on the left side only; however, on many recent designs, they are located bilaterally for ambidextrous use. While many thumb safeties are pivoted downward to disengage, some work in the opposite direction. Such safeties mounted on the frame typically block the sear, while those mounted on the slide usually prevent the hammer from contacting the firing pin.

A different type of safety system found on some traditional double-action pistols is the hammer drop safety, also known as a decocker. When this is engaged, the hammer falls harmlessly to its lowered position. With any pistol of this type, firing a shot, or simply working the slide to feed a round into the chamber, leaves the hammer in the cocked position. Since such pistols are not designed to be safely carried with a round in the chamber and the hammer back, the hammer must be lowered before the pistol is holstered, placed in a storage device, etc. The decocking mechanism safely accomplishes this. Double-action-only (DAO) semi-automatic pistols may have a thumb safety or, alternately, no active safety mechanism at all.

All semi-automatic pistols normally exhibit one or more passive safety systems, such as an inertia firing pin, a magazine disconnect (which prevents firing the round in the chamber if the magazine is removed), grip safety, or passive firing pin block that prevents forward firing pin travel unless the trigger is depressed.

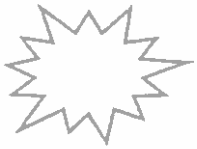
Slide-Mounted Decocker

Frame-Mounted Safety

Trigger Safety

Semi-Automatic Cycle of Operation

All semi-automatic pistols have essentially the same cycle of operation:

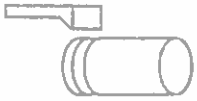


1

Firing
occurs when the trigger is pulled and the hammer or striker is released to fly forward, causing the firing pin to hit the primer or priming compound in the cartridge.

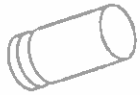
2

Unlocking is the initial step in the opening of the action. In most semi-automatic pistols, the action is kept closed simply by the recoil spring, and opens only when chamber pressure overcomes slide inertia and spring pressure.



3

Extraction is the pulling of the spent cartridge case rearward out of the chamber, usually by a part called an extractor.

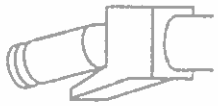


4

Ejection is the forcible throwing of the spent case clear of the action by a component called the ejector.

5

Cocking is the movement of the hammer or firing pin to its rearward position, where it is retained against spring pressure by the trigger mechanism.



6

Feeding is the insertion of a live cartridge into the chamber.

7

Locking is the closing of the action so that the breech is sealed. After the Locking step, the cycle returns to the Firing step.

Semi-Automatic Cycle of Operation Illustrated

1

The semi-automatic cycle of operation is shown here on a double-action-only pistol. There is a cartridge in the chamber, and the barrel and action are mechanically locked. Following the release of any safeties ...

2

... the trigger bar transfers finger pressure to cock the striker or hammer. Some pistols skip this step by cocking the striker/hammer using the same slide motion that chambers a round.

3

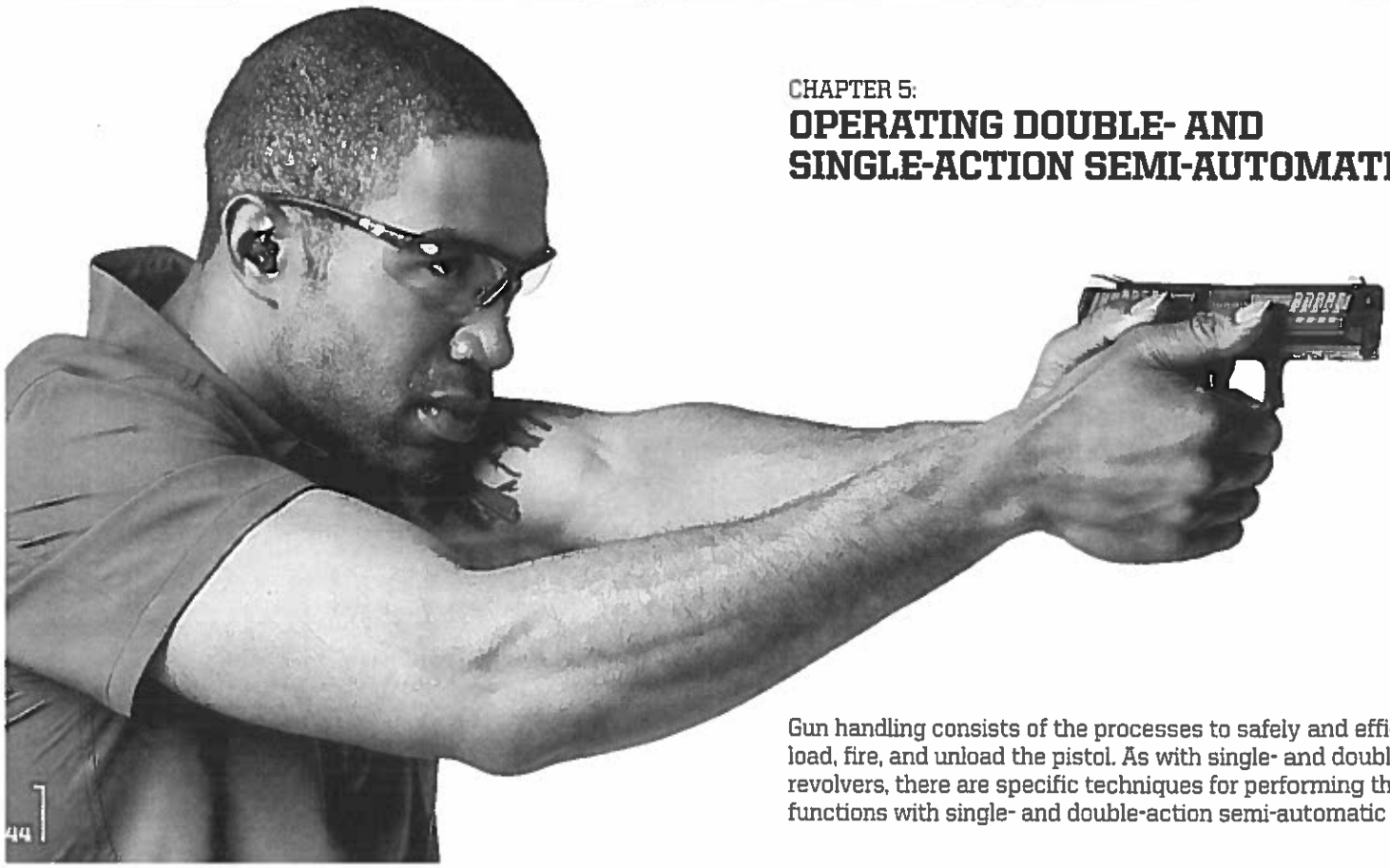
Full travel of the trigger to the rear releases the striker or hammer (which strikes the firing pin). Either the hammer or striker moves rapidly forward, striking the primer, igniting the powder, and firing the gun.

4

When gas pressure from the burning powder falls to a safe level, the action unlocks the barrel and slide. The slide continues rearward where the spent case is extracted from the chamber and ejected.

5

Recoil spring tension drives the slide forward following ejection. A fresh cartridge is extracted from the top of the magazine, and pushed forward and up the feed ramp into the chamber.



CHAPTER 5:

OPERATING DOUBLE- AND SINGLE-ACTION SEMI-AUTOMATICS

Gun handling consists of the processes to safely and efficiently load, fire, and unload the pistol. As with single- and double-action revolvers, there are specific techniques for performing these functions with single- and double-action semi-automatic pistols.

Loading

Loading means filling an empty gun with cartridges. This process involves, first, loading the empty magazine and then inserting the magazine into the gun and feeding a live cartridge into the chamber.

Loading the Semi-Automatic Pistol Magazine

1

The magazine should be grasped by the fingers of the support (non-firing) hand, with the top of the magazine facing upward and the front of the magazine oriented toward the firing hand. The firing hand picks up a live cartridge and brings it to the top of the magazine, with the case head facing the magazine and the bullet pointing away from the magazine.

2

The case rim is used to depress the magazine follower slightly, and the cartridge is then slid under the feed lips of the magazine all the way to the rear.

3

The case rim of the next cartridge to be loaded depresses the top cartridge in the magazine, and itself is slid under the magazine feed lips. This process is repeated for each cartridge until the magazine is loaded.

4

Finally, the shooter should slap the rear of the loaded magazine sharply, to ensure that all cartridges are positioned to the rear of the unit, for proper feeding.

▼ Loading Semi-Automatic Pistols

The pistol is grasped with the firing hand, with the trigger finger outside the trigger guard, straight along the frame.

With the pistol pointing in a safe direction, the non-firing hand brings the magazine to the magazine well in the butt of the gun, and inserts the magazine fully. The magazine must be inserted in the proper orientation, with the bullets facing forward. Normally, a click is heard when the magazine is fully seated.

The shooter may also slap the floorplate or basepad to ensure proper seating.

4

Next, with the pistol still pointed in a safe direction, and the trigger finger still outside the trigger guard, the non-firing hand grasps the slide and retracts it. There are different ways of grasping the slide; with any method, the hand must stay well clear of the gun's muzzle.

5

It is critical to avoid following the slide or easing it down with the non-firing hand. Semi-automatic pistols are designed to function best when the slide travels rapidly forward under the pressure of the recoil spring. Easing the slide down is very likely to produce feeding malfunctions.

Retracting the slide allows the top cartridge in the magazine to rise to a position where it can be fed into the chamber when the slide goes forward. There are two ways of accomplishing this. One is to retract the slide fully with the support hand, and then let it fly forward. Alternatively, the slide may be fully retracted with the support hand until it is locked open by the slide stop. When loading is desired, the slide stop is depressed, releasing the slide. With either procedure, the forward-moving slide will strip the top cartridge from the magazine and chamber it.

Once a live cartridge has been chambered, the shooter may commence firing. If there is to be a delay in firing, the pistol should be made safe by either engaging the decocker (on a double-action pistol) or the manual safety (on a single-action pistol), normally positioned near the firing-hand thumb. The location of these controls will be found in the owner's manual for the pistol.

While many modern pistols have ambidextrous controls that are equally convenient for right- and left-handed users, some are designed for right-

handed use only. Left-handed shooters using such pistols may have to engage the pistol's decocker or safety with the fingers of their non-firing hand, or learn strong-hand techniques for accomplishing this.

It is also worth noting that some semi-automatic pistols, such as double-action-only models, lack either a decocker or a manual safety.

Firing

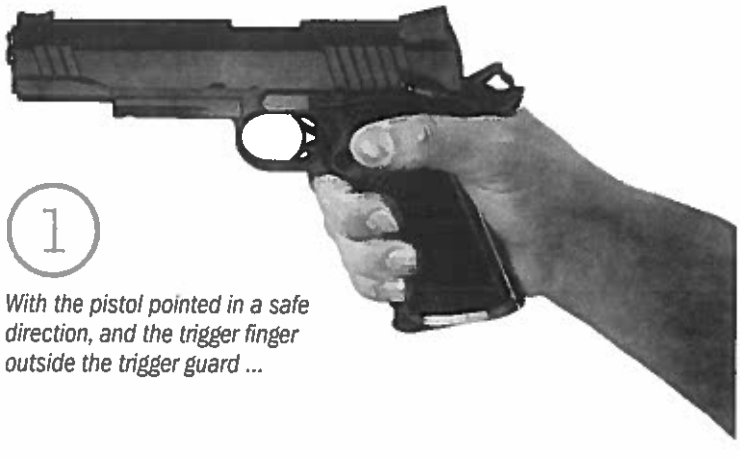
Firing the loaded semi-automatic pistol involves essentially the same procedure whether the gun used is a double-action or single-action type. The pistol is grasped in the firing hand (or in both hands, if a two-hand hold is used). With the pistol pointed in a safe direction and the trigger finger outside the trigger guard, alongside the frame, the gun's decocker or manual safety is moved to the "fire" position, usually by the thumb of the firing hand. With some firearms, however, left-handed shooters will have to operate these controls with the fingers of the non-firing hand.

The pistol is then aligned with the target. At this time, the trigger finger may enter the trigger guard and contact the trigger, and the sequence of events that culminate in firing a shot can begin.

Upon firing the first shot, the shooter may continue to fire a

▶

Firing a semi-automatic pistol



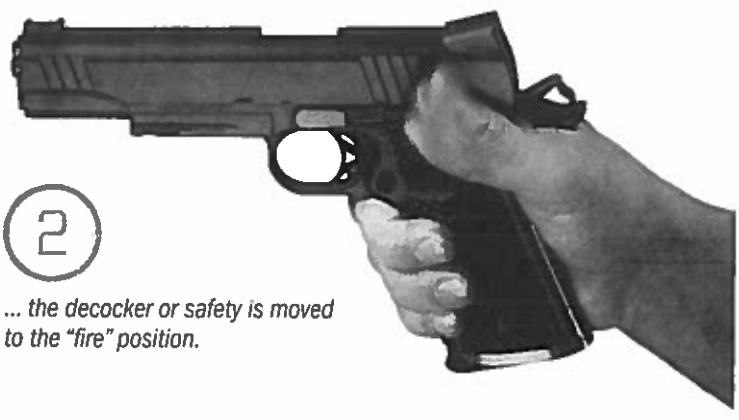
1

With the pistol pointed in a safe direction, and the trigger finger outside the trigger guard ...

number of shots or may elect to lower the pistol. Alternatively, the shooter may put the loaded pistol on the shooting bench. If the gun is simply lowered, and another shot is to be immediately fired, there is no need to engage the decocker or safety. On the other hand, a loaded pistol placed on a bench should, at the very least, have the decocker or safety put into the "safe" condition. Also, if the pistol is put on the shooting bench and the shooter intends to walk away from it for a moment for any reason, the pistol should be fully unloaded and left on the bench with the slide locked open and the magazine removed.

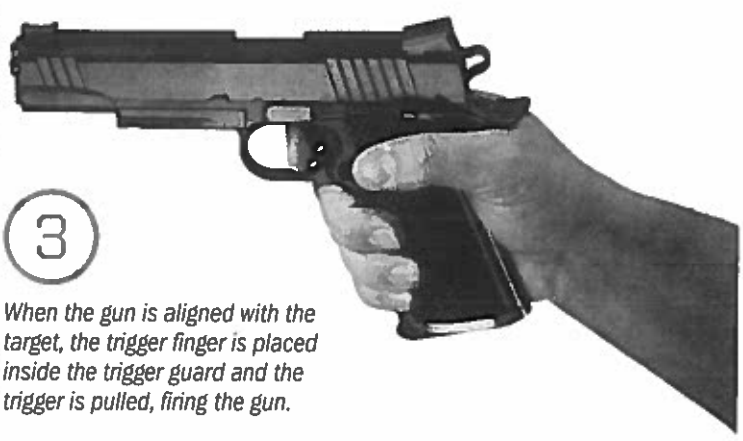
Decocking

Safely lowering the cocked hammer of a semi-automatic pistol with a decocking mechanism usually involves nothing more than activating the decocking lever. With pistols lacking this mechanism, such as single-action semi-automatics, a different procedure must be employed. Unload the gun, and refer to the gun's owner's manual.



2

... the decocker or safety is moved to the "fire" position.



3

When the gun is aligned with the target, the trigger finger is placed inside the trigger guard and the trigger is pulled, firing the gun.

Unloading

Left-handed shooters operating right-handed guns will have to depress the magazine release button either with the tip of the trigger finger, or with the fingers of the non-firing hand. Note that some semi-automatic pistols (mostly older models) do not have a magazine release near the trigger guard, but instead feature a latch at the rear of the magazine well, typically operated by the non-firing hand.

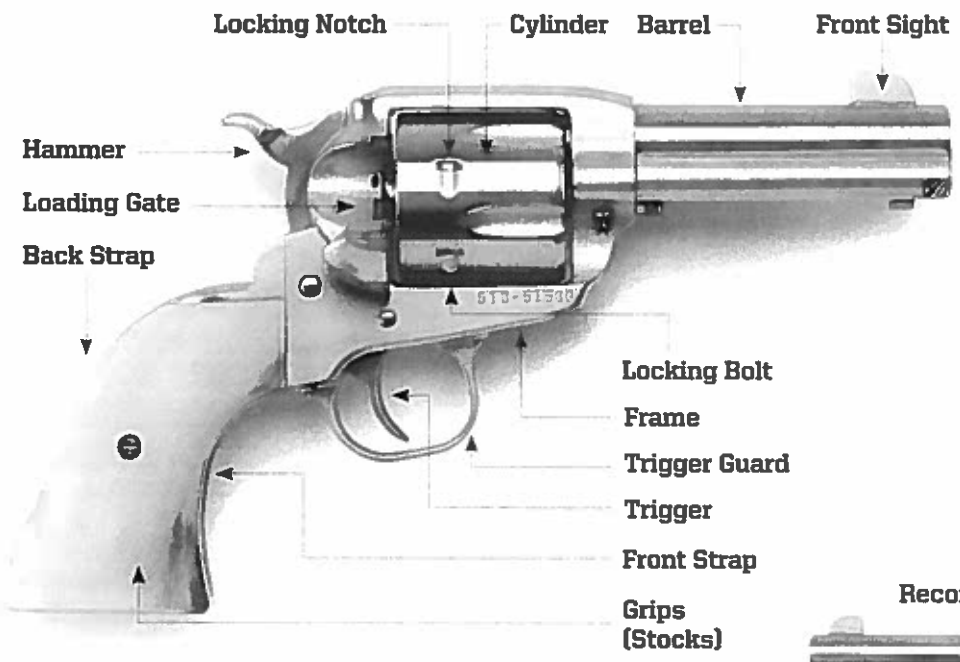
Unloading a semi-automatic pistol

To unload a semi-automatic pistol, first ensure that it is pointed in a safe direction. Remove the trigger finger from the trigger and place it outside the trigger guard, alongside the frame.

Next, press the magazine release button to drop the magazine from the gun. In most modern pistols, this button is located to the rear of the trigger guard, near the firing-hand thumb. As with other pistol controls, some firearms offer ambidextrous magazine releases that are equally convenient for both right- and left-hand users.

Once the magazine is removed from the pistol, it is still necessary to extract the live cartridge from the chamber. With the pistol kept pointed in a safe direction, and the trigger finger still outside the trigger guard, use the support hand to sharply retract the slide fully to the rear. This will extract the live round from the chamber and eject it. Do not attempt to catch or capture the cartridge flying out of the ejection port. At this time, with the slide fully rearward, visually inspect the chamber to ensure that it is empty.

If further shooting is anticipated, the pistol may be left on the shooting bench with the slide locked open and the magazine removed. On the other hand, if the firearm is to be put back into its case, the slide should be eased forward and, while the gun is pointed in a safe direction, the hammer should be dropped either by operating the decocker or by pulling the trigger on the empty chamber.

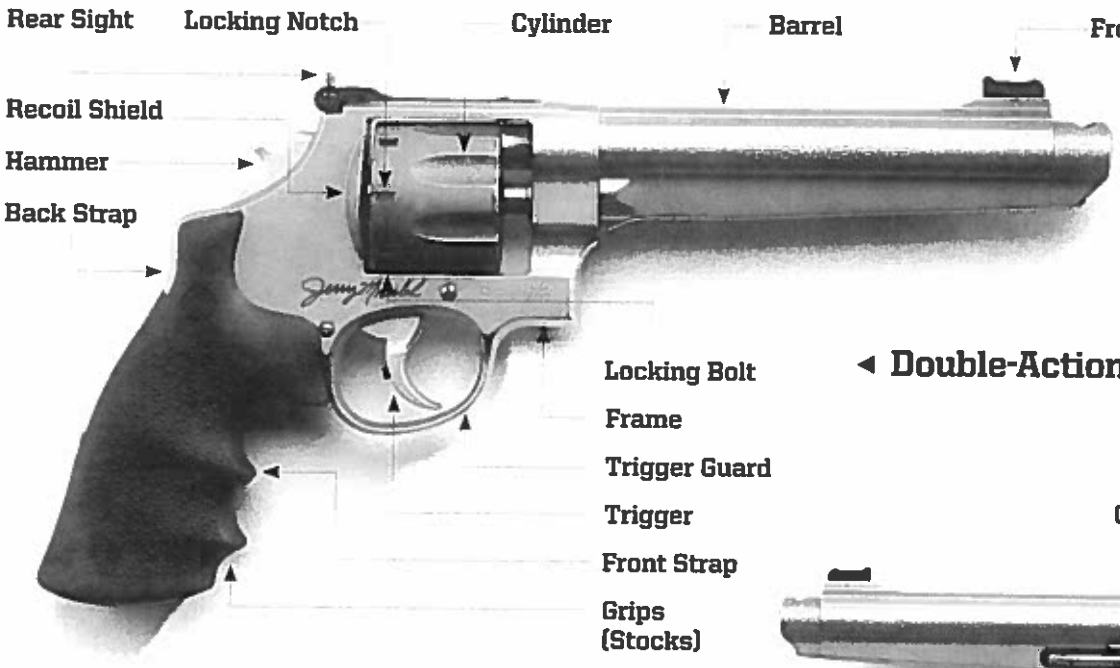


▲ **Single-Action Revolver Parts**

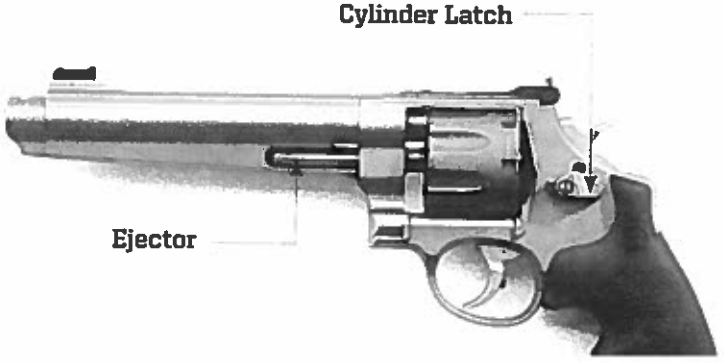
CHAPTER 6:

REVOLVER PARTS AND HOW THEY WORK

The primary feature of a revolver action is its rotating cylinder. Mounted on the frame just to the rear of the barrel, the cylinder contains several chambers for cartridges, each of which comes into alignment with the bore as the cylinder is rotated. The modern revolver action is an outgrowth of earlier designs, such as the pepperbox, which consisted of a drum containing a number of barrels, each with a live chambered round, that was manually rotated to bring each successive barrel into alignment with the hammer. Today, the term "revolver" universally refers to a type of pistol with a rotating cylinder.



◄ Double-Action Revolver Parts



Types of revolver mechanisms

There are generally two types of revolver actions: single-action and double-action. The single-action revolver is the older of the two designs, and is so called because pulling the trigger performs a single action: releasing the hammer. To operate a single-action revolver, the hammer is first manually cocked. This tensions the mainspring and retracts the bolt or cylinder stop out of engagement with one of the notches in the cylinder, freeing the cylinder to rotate. As the hammer is drawn further rearward, the hand (in Colt and Smith & Wesson terminology) or pawl (in Ruger nomenclature), which is attached to the hammer, moves vertically in a slot in the recoil shield of the frame, engaging an offset ratchet on the rear face of the cylinder and producing cylinder rotation. The ratchet and pawl are carefully designed so that, as the hammer is fully cocked and held rearward by the trigger, the cylinder is rotated only enough to bring the next chamber into alignment with the bore. At that point the bolt or cylinder stop snaps into the next notch, locking the cylinder in proper alignment. Pulling the trigger fires the revolver, and the cycle is repeated with the cocking of the hammer.

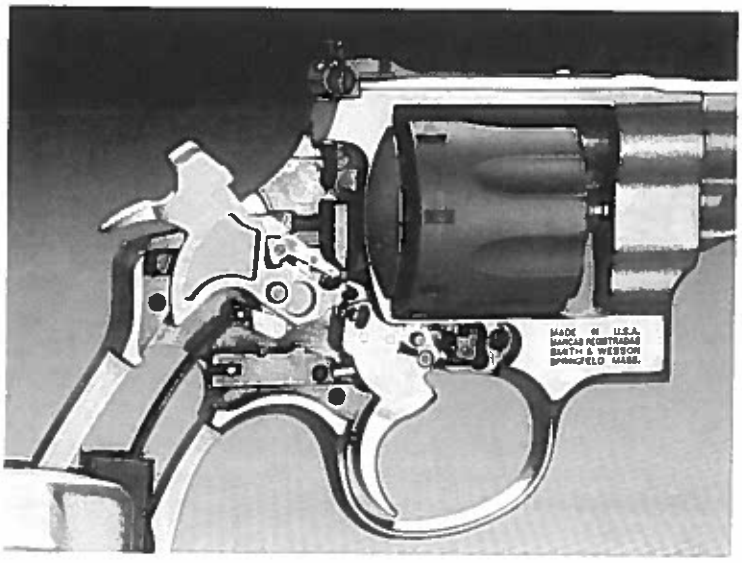
Double-action revolvers are so named because pulling the trigger both cocks and releases the hammer. Modern double-action revolvers can generally be fired in both the single- and double-action modes. The single-action mechanism of a double-action revolver is essentially identical to that of a single-action revolver, described above. The double-action mechanism is made possible by a separate double-action sear on the hammer that is engaged by the trigger such that rearward trigger movement first retracts the hammer to its cocked position, and then, with additional trigger movement, allows the hammer to fall, firing the revolver.

Although most double-action revolvers can be fired in the single-action mode, some models intended for personal protection are designed to allow double-action firing only, as this is generally considered more practical in defensive situations. Some of these revolvers lack hammer spurs, or enclose a spurless hammer completely within the frame of the gun.

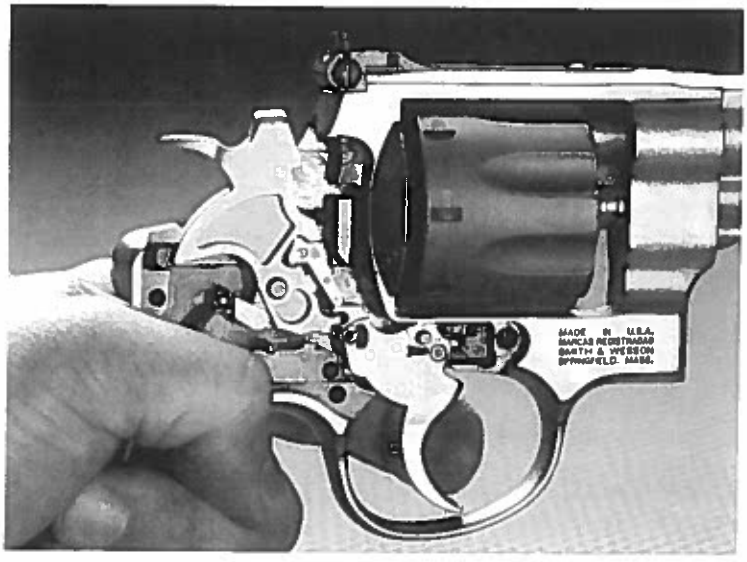
All revolvers must be manually loaded by inserting cartridges into the chambers of the cylinder, but variations exist in the way this is accomplished. With some of the oldest single-action revolver designs (as well as a very few modern mini revolvers), loading sometimes requires removal of the cylinder, which is then filled with cartridges and reinstalled in the revolver. Most single-action revolvers, however, allow loading by way of a spring-loaded gate in the right side of the frame that, when opened, gives access to a single chamber of the cylinder. Loading is accomplished by inserting a fresh cartridge into each exposed chamber, one at a time. To unload the gun, an ejector rod is used to push empty cases out of the open loading gate. Some of these revolvers require that the hammer be set at the half-cock position before the cylinder can be rotated.

▼ Single-Action vs. Double-Action Revolver Triggers

In the **Single-Action Mode**, *the hammer is held back directly by the trigger. When the trigger is pulled, the hammer falls to fire the cartridge. This is the same for both single-action and double-action revolvers fired in the single-action mode.*



In the **Double-Action Mode**, *the hammer is rotated rearward by the engagement of the tail of the trigger with the double-action sear on the hammer. When the trigger and hammer rotate through their full arc, the double-action sear slips off the trigger tail, firing the pistol.*



Faster loading and unloading was permitted by two later designs. Top-break revolvers, which originated in the latter part of the 1800s, feature a two-piece frame that is hinged forward of the cylinder, and a latch at the rear of the top strap (the portion of the frame directly above the cylinder). When the latch is disengaged, the barrel and the upper portion of the frame rotate forward, opening the action, exposing the chambers and (with most designs), extracting spent cases or live rounds from all chambers simultaneously. Loading is accomplished as with other revolvers, by inserting fresh cartridges into each chamber, one at a time.

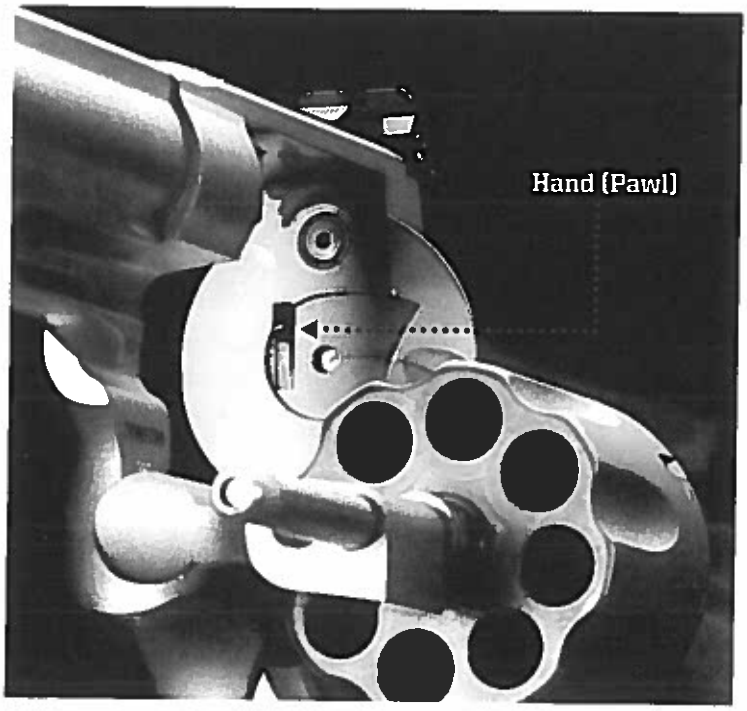
The top-break revolver is an antiquated design that today has been superseded by the stronger swing-out cylinder design, which represents the pinnacle of revolver evolution to date. Instead of a hinged two-piece frame, such guns have a one-piece solid frame with a laterally swinging crane (Colt and Ruger) or yoke (Smith & Wesson and Taurus), on which the cylinder and ejector rod are mounted. When the action is closed, the crane fits flush against the frame, and the cylinder is centered in the frame. The action is locked closed by various latch mechanisms, some of which engage the ejector rod at the front, the center pin at the rear (or both simultaneously), while there are other systems that lock the crane directly to the frame. A cylinder release latch, usually on the left side of the frame but sometimes on the crane, releases the crane so that the cylinder can be swung outward from the frame. In this open position, the ejector rod can be pushed to extract empty cases or live cartridges (or, if struck smartly enough, to eject cases or cartridges completely free of the cylinder).

Traditionally, for both proper functioning and extraction, revolver cartridges have been rimmed. However, some rimless semi-automatic cartridges can be fired in revolvers by the use of special devices known as moon clips, thin metal tabs with circular cutouts that snap around the extractor groove of a rimless cartridge. Moon clips provide purchase for the extractor star, and come in two-cartridge, three-cartridge (half-moon) and five- or six-cartridge (full-moon) varieties. All allow more rapid revolver reloading.

Revolvers are unique among conventional firearms in having a chamber that is separate from the barrel. This design also results in another unique feature: the barrel-cylinder gap. This gap, which is normally around 0.004"-.008", allows clearance between the face of the cylinder and the barrel for smooth cylinder rotation. Some gas also escapes from this gap–not enough to substantially lower velocities, but sufficient to be seen and heard, and to mark objects (or injure fingers) positioned close to this gap.

▼ How the Cylinder Rotates

Revolvers are characterized by a rotating cylinder with several chambers. Each time the hammer is cocked (single-action revolver) or the trigger is pulled (double-action revolver) the hand or pawl rises in its window in the recoil shield (left, arrow) and engages one of the ratchets on the extractor star (right, arrow) of the cylinder, rotating it to the next chamber.

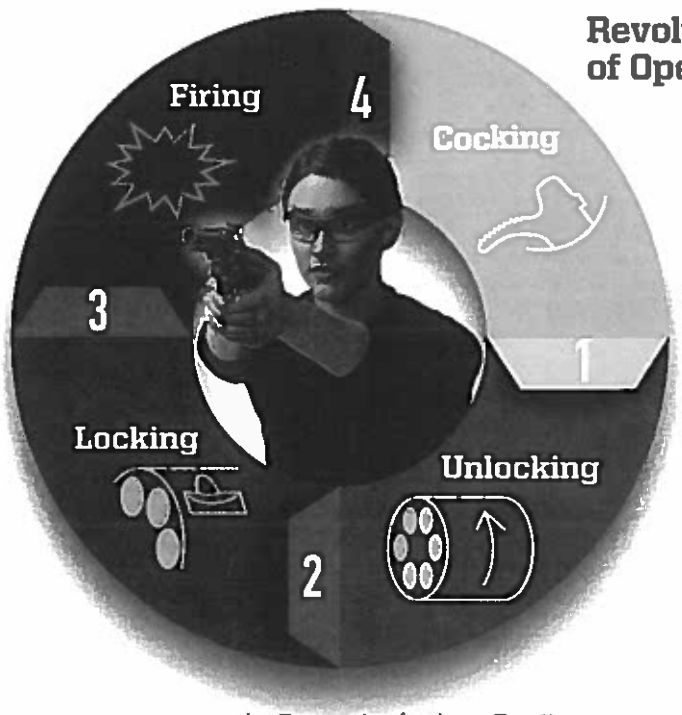


Revolver Safety Mechanisms

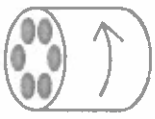
In general, both single-action and double-action revolvers lack safeties of the type found on many other arms. Traditionally, it has been felt that the long, heavy pull of double-action revolvers, or the two-stage method of operation of single-action revolvers, made unintentional discharges extremely unlikely. Today, virtually all modern revolvers are produced with internal safety devices that require no deliberate shooter activation, and which are automatically disengaged when the trigger is properly pulled. However, many models include action locking mechanisms for storage.

Revolvers typically employ various types of passive safety mechanisms. As a general rule, these mechanisms work by preventing the hammer from contacting the firing pin unless the trigger is pulled fully rearward. (In revolvers in which the firing pin is part of the hammer, the safety mechanism prevents the hammer from falling fully forward unless the trigger is pulled.) These passive mechanisms help prevent an inadvertent discharge of a cocked revolver.

Revolver Cycle of Operation



Cocking. *Cocking is accomplished by manually retracting the hammer (in single-action designs) or by simply pulling the trigger (in double-action designs). Regardless of design, hammer cocking also brings each successive chamber of the cylinder into alignment with the bore.*

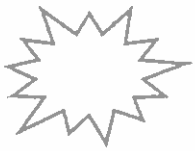


2

Unlocking. *With all revolver designs, as the hammer begins to move rearward, the bolt or cylinder stop retracts from its notch to allow cylinder rotation, bringing the next chamber into alignment with the bore.*

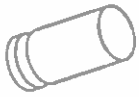
3

Locking. *With all revolver designs, the cylinder is locked into alignment with the bore by a bolt or cylinder stop, which enters a notch in the circumference of the cylinder.*



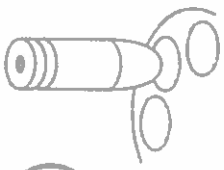
4

Firing. *With either single-action or double-action designs, a revolver is fired simply by pulling the trigger. While a single-action pull is usually short and relatively light, double-action pulls are long and fairly heavy.*



5/6

Extraction and Ejection. *With single-action designs that are loaded and unloaded through a loading gate, spent shells are extracted and/or ejected one at a time by manipulation of the ejector rod. With swing-out cylinder revolvers, the action must first be opened, normally by means of a latch on the left side of the frame or on the crane that is manipulated to allow the crane and cylinder to swing out. Once the cylinder is exposed, the shooter presses the ejector rod, which extracts (or, if worked with sufficient force, ejects) shells from the cylinder.*



7

Feeding. *With the empty chambers of the cylinder exposed (as with swing-out designs), or with the loading gate open (as with most single-action designs), cartridges are manually inserted into the chambers. After all chambers are full, the action is closed by swinging the cylinder shut or by closing the loading gate, depending upon the revolver design.*

CHAPTER 7:

OPERATING DOUBLE- AND SINGLE-ACTION REVOLVERS

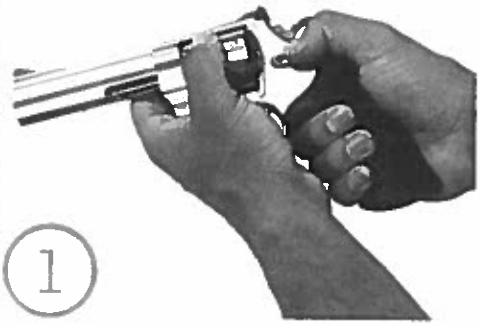
Gun handling consists of the processes to safely and efficiently load, fire, and unload the pistol. There are specific techniques for performing these functions with single- and double-action revolvers.

LOADING

Loading double-action and single-action revolvers involves two separate and very different procedures.

▼ Loading Double-Action Revolvers

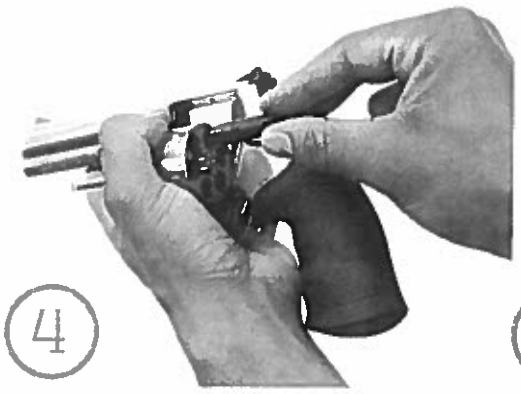
Almost all double-action revolvers feature a swing-out cylinder operated by a latch that, in most models, is located on the left side of the frame (*see* Revolver Parts and Operation).



With the revolver held in the right hand (for both right- and left-handed shooters), pointed in a safe direction with the trigger finger outside the trigger guard and alongside the frame, the cylinder latch is engaged with the right hand thumb. Note that a few revolver models locate the cylinder latch on the crane; engaging the latch must be done with the left hand.

With the cylinder latch disengaged, the left hand is placed around the frame and the left-hand fingertips push the cylinder out of the frame, to the left. The cylinder should never be swung out violently, as is sometimes seen in movies; this will damage the revolver.

Once the cylinder is fully open, the revolver's muzzle is pointed slightly downward.



With the revolver held in the left hand, live cartridges are inserted, one by one, into the chambers of the cylinder with the right hand.

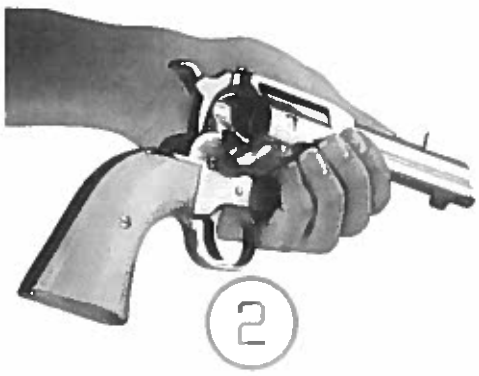
When the cylinder is full, the left-hand thumb pushes it fully back into the frame. A click will be heard when the cylinder is locked in place by the cylinder latch.

At this point, the revolver is ready to fire. A firing grip may be obtained with the dominant hand.

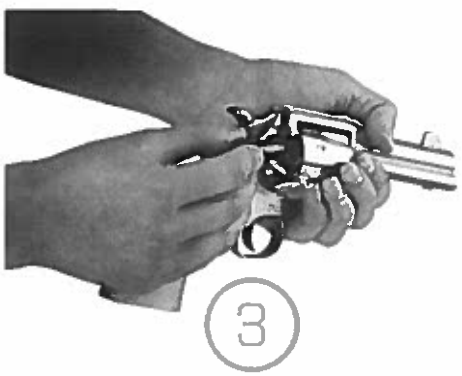
▼ Loading Single-Action Revolvers
Instead of a cylinder that swings out, single-action revolvers usually have a right-side loading gate that is swung open to allow access to one chamber at a time.

For a left-handed shooter, *the revolver is held in the left hand, the hammer is placed in the half-cock position if necessary, and the loading gate opened with the right-hand thumb. With the gun rotated slightly counterclockwise and held with the muzzle down (but still pointed in a safe direction), the cylinder is rotated with the right hand until an empty chamber is fully exposed, and a fresh cartridge inserted into it. The cylinder is rotated to expose the next empty chamber, and the loading process is repeated until all the chambers are full, at which point the loading gate is closed.*

For a right-handed shooter, *the revolver is initially held in the right hand and the hammer put in the half-cock position (on some models). The gun is then transferred to the left hand and the loading gate opened with the right-hand thumb.*



The gun is turned slightly counterclockwise, with the muzzle pointed downward (but still in a safe direction), and the cylinder is rotated to expose an empty chamber.



A fresh cartridge is inserted into the chamber with the right hand, and then the chamber is rotated to expose the next empty chamber (3). This process is repeated until all the chambers are full, at which point the loading gate is closed.

FIRING

Firing the revolver involves slightly different processes, depending upon whether a double- or single-action gun is used.

▼ Firing Double-Action Revolvers

Almost all modern double-action revolvers can be fired in either of two modes: the double-action mode or the single-action mode.

In the double-action mode, the revolver is fired simply by pulling the trigger through its long double-action arc when it is pointed at the target. This action advances the cylinder, and both cocks the hammer and releases it when fully cocked, firing the cartridge. Pulling the trigger again advances the cylinder to the next chamber and cocks and releases the hammer, firing another cartridge. This procedure is repeated until the desired number of shots is fired, or all the cartridges are spent.

Firing a double-action revolver in the double-action mode involves first placing the trigger finger on the trigger.

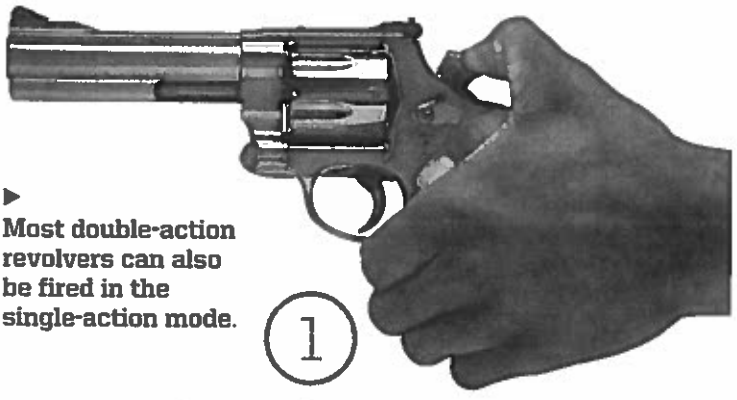
The trigger is then pulled, rotating the cylinder to the next chamber and cocking the hammer ...

...and then releasing the hammer to fire a cartridge.

The shooter will notice a distinct difference in trigger pull quality and weight in double-and single-action modes. In the double-action mode, the trigger pull is long and relatively heavy–usually around eight to 15 pounds. In the single-action mode, in contrast, the trigger releases after a very short pull, usually at a light weight of only two or three pounds.

It is also worth noting that some double-action revolvers are designed to work only in the double-action mode. This is accomplished by such design features as shrouds or frames that enclose the hammer, hammers that lack a spur, or the elimination of the internal contact surfaces on the trigger or hammer that produce the single-action pull.

In both the double-action and single-action modes, the shooter must avoid grasping the revolver in a way that puts the non-firing hand near the barrel/cylinder gap. Hot, high-pressure gas escaping through this gap could injure a finger carelessly placed close to it.



▶ **Most double-action revolvers can also be fired in the single-action mode.**

To fire a double-action revolver in the single-action mode, the hammer is cocked with the support-hand thumb or firing-hand thumb. Cocking the hammer advances the cylinder.

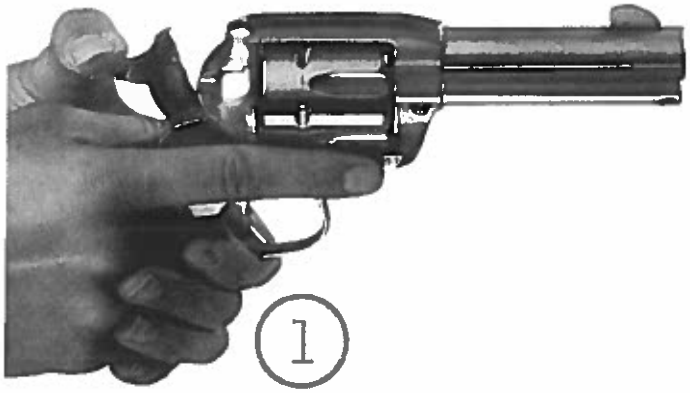
The gun is then aimed with the hammer in the fully cocked position.

Firing is accomplished simply by pulling the trigger, which causes the hammer to fall and the firing pin to hit the cartridge primer. Repeat the sequence to fire again.

▼ Firing Single-Action Revolvers

The process for firing single-action revolvers is identical to that for firing double-action revolvers in the single-action mode. The revolver is then fired by pulling the trigger. To fire another shot, the hammer must again be manually cocked, which once more advances the cylinder to the next chamber. This process of cocking and firing may be repeated until the desired number of shots is discharged, or the cartridges are all fired.

As with the double-action revolver, the single-action revolver shooter must keep the non-firing hand away from the barrel/cylinder gap, to avoid injury from the hot, high-pressure gas that escapes through it.



With the revolver pointed in a safe direction, the hammer is first cocked (either with the thumb of the firing hand in a one-hand shooting grip, or by the thumb of the support or non-firing hand, if a two-hand grip is employed). Cocking the hammer advances the cylinder to the next chamber.

The gun is then aimed with the hammer in the fully cocked position.

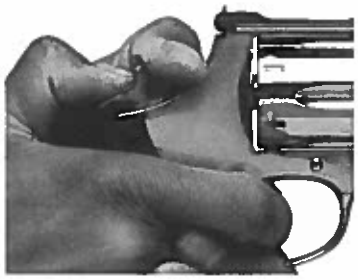
Firing the pistol is accomplished by pulling the trigger.

DECOCKING

For a variety of reasons, it may become necessary for a shooter firing a single-action revolver, or a double-action revolver in single-action mode, to lower the hammer on a chamber containing a live cartridge.

1

To decock a revolver, first put the trigger finger outside the trigger guard.



2

Place the support-hand thumb between the hammer and frame, engage the hammer spur with the firing-hand thumb, and pull the trigger. Take the finger off the trigger ...

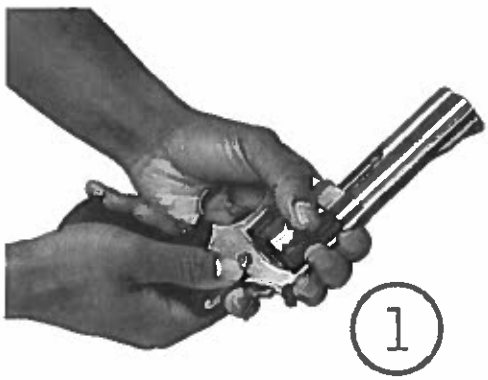
3

... and ease the hammer forward until it touches the support-hand thumb. Remove the support-hand thumb and ease the hammer the rest of the way down.

UNLOADING

The mechanisms of double-action and single-action revolvers require unloading procedures that are very different.

▼ Unloading Double-Action Revolvers

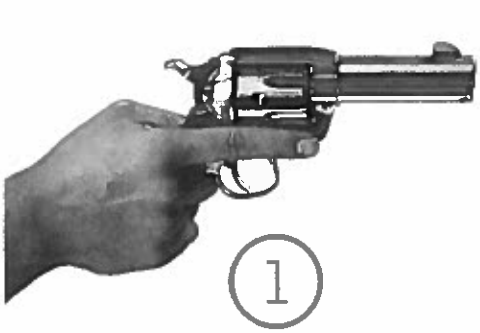


With the revolver held in the right hand, the trigger finger outside the trigger guard and the muzzle pointing in a safe direction, the right thumb disengages the cylinder latch (except in those models, discussed earlier, in which the latch is on the crane, which requires the use of the left hand). The fingers of the left hand encircle the frame and push the cylinder out of the frame, to the left.

With the cylinder fully open the shooter may choose two methods of removing spent cases and live cartridges from the chambers. With the revolver's muzzle pointing slightly downward, the shooter may push rearward on the ejector rod, raising both the brass cases and live cartridges out of the cylinder. This allows them to be removed, one by one, from the chambers using the right hand (while the left hand supports the revolver).

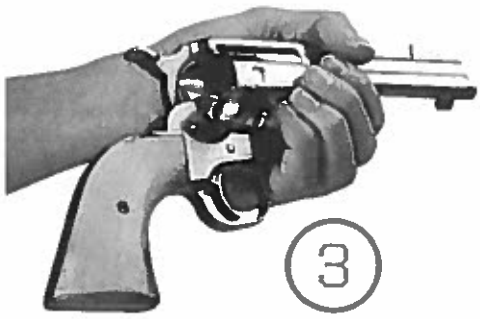
Alternatively, the shooter may hold the gun in the left hand, with the cylinder open and the left-hand fingers through the opening in the frame that is normally occupied by the cylinder. The muzzle is then pointed straight up, and the left-hand thumb forcefully pushes the ejector rod downward. If hard extraction is encountered, the ejector rod may be hit sharply with the palm of the right hand. Either technique will have the effect of forcefully extracting all the brass and live cartridges from the chambers and dropping them simultaneously out of the cylinder. This technique is used when the shooter wishes to reload the revolver quickly.

▼ **Unloading Single-Action Revolvers**
As with the loading process, the single-action revolver can be unloaded with the revolver held in either hand.



To unload a single-action revolver, the gun is grasped in the firing hand, with the finger outside the trigger guard and the hammer down.

The loading gate is opened, and the cylinder is rotated to align an empty case or live cartridge with the opened loading gate.



Note that some revolver designs require that the hammer be in the half-cock mode for the loading gate to be opened and the cylinder rotated.

For left-handed shooters, the unloading process starts with the revolver in the left hand. With the trigger finger outside of the trigger guard and straight alongside the frame, and the muzzle pointed in a safe direction, the hammer is put in the half-cock position (if necessary), and the loading gate opened with the right hand. The cylinder is rotated until a cartridge case head is fully visible, and then the ejector, located under the barrel, is pulled to the rear, pushing the live cartridge or empty brass out of the chamber. The ejector is allowed to return forward, the cylinder is rotated to the next chamber, and the process is repeated until all chambers are empty.

With an empty case or live cartridge aligned with the loading gate, the index finger of the firing hand engages the ejector rod and pulls the rod rearward to push the case or cartridge ...

... out of the chamber, where it is manually removed. The cylinder is rotated to the next chamber, and the process repeated until the revolver cylinder is empty.

Notes:

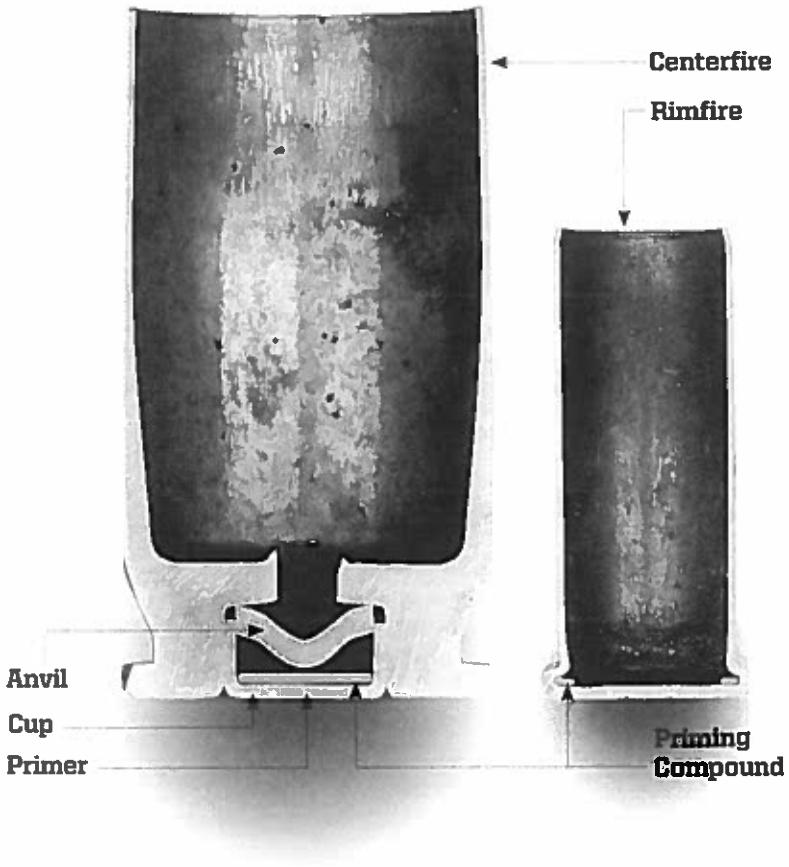
CHAPTER 8:

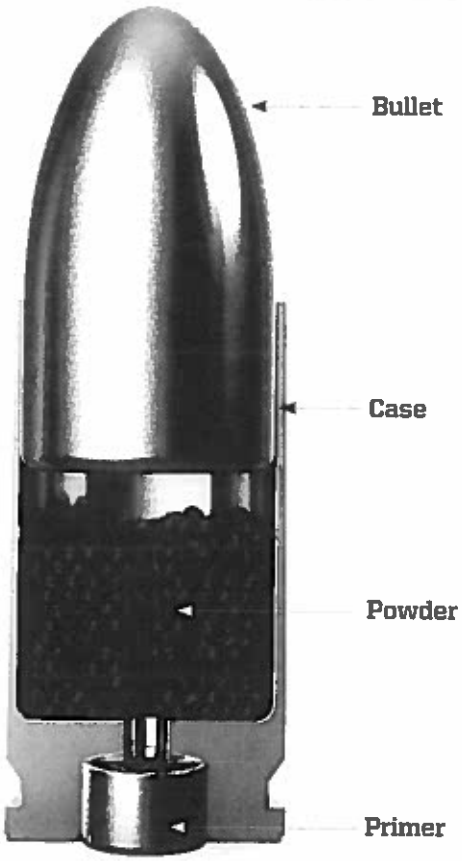
AMMUNITION FUNDAMENTALS

While much attention is paid to pistol design and performance, shooters sometimes forget that it is the cartridge that largely determines the performance of any firearm system. Just as a computer is no more than a device for running software, a pistol is only a tool for getting the most out of a particular cartridge.

CARTRIDGE TYPES

There are two types of metallic cartridges used in modern firearms: rimfire cartridges and centerfire cartridges. These two cartridge types differ in the location of the pressure-sensitive priming mixture that ignites the gunpowder when the firing pin strikes the case head. In a rimfire cartridge, the priming mixture is contained in a fold in the cartridge rim. In a centerfire cartridge, the priming mixture is contained in a separate component called a primer, located in the center of the case head.





CARTRIDGE COMPONENTS

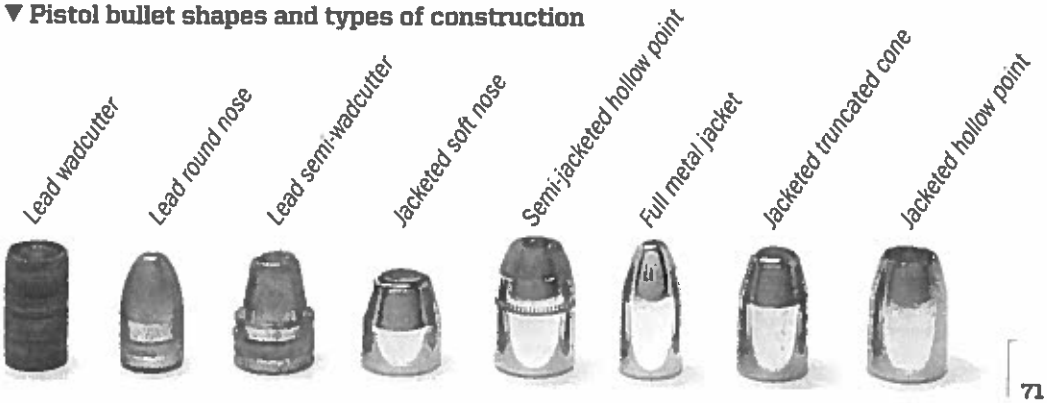
There are four parts to any modern cartridge: case, powder, primer (or priming compound) and bullet.

Bullet

Pistol bullets may have a variety of shapes and types of construction. Most are of lead or jacketed lead construction. In the former, the bullet is cast or swaged to the proper diameter and shape. In the latter type of construction, the bullet has a lead core surrounded by a thin copper jacket. Jacketed lead bullets can be driven to higher velocities, and can be designed to give optimum terminal performance for the intended purpose. Additionally, some pistol bullets for hunting or self-defense use are also made out of a solid copper alloy.

Bullet performance in the air and at the target depends upon bullet construction and shape. More information on pistol bullet performance is contained in Chapter 17: Selecting Pistols, Ammunition and Accessories.

▼ **Pistol bullet shapes and types of construction**

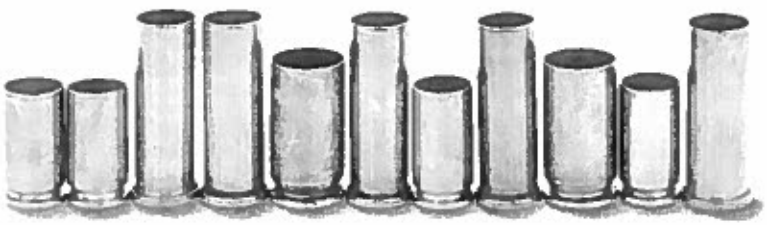


Case

Modern cartridge cases are generally made of brass (occasionally of steel); some are nickel-plated. The case consists of a body, which terminates at one end in a neck and mouth, and, at the other, in a thick head. A centerfire cartridge case head contains a primer pocket that holds the primer, and a flash hole that conveys the primer spark through the web of the case to the powder charge. The head also contains a headstamp of the cartridge name. A rimfire case head has no primer, but instead has priming compound located in a fold in the case rim (*see* Primer section, next page).

There are several types of cases, based on the shapes of the body and head. Case bodies are either of bottleneck design, with a neck smaller than the body and a pronounced shoulder where they meet, or straight, with a body about the same size as the neck. Case heads come in five configurations. Rimmed cases have a protruding rim that is grasped by the pistol's extractor to remove it from the chamber. Semi-rimmed cases have a rim that is only slightly larger than the body diameter, and an extractor groove that allows the extractor a better grip. Rimless cases have a deep extractor groove that creates a rim the same diameter as the case body, while rebated-rimless cases have a rim smaller in diameter than the body. Finally, belted rimless cases are simply rimless cases with a thickened belt directly above the extractor groove. These are used for magnum cartridges (cartridges having a larger-than-normal case capacity to develop higher velocity).

Regardless of its design, the case performs the same functions. It contains the other cartridge components; it locates the bullet in relation to the bore and rifling; and it provides a combustion chamber for uniform ballistics. Upon cartridge ignition, it contains the pressure created by propellant gases, and, perhaps most importantly, it expands tightly against the chamber walls, preventing gas leakage to the rear. Finally, after the bullet leaves the muzzle and gas pressure drops, the case springs back slightly from the chamber walls, allowing it to be easily extracted.



Primer

The primer creates the spark that ignites the powder charge. It is essentially a small metal cup containing a layer of pressure-sensitive priming compound, over which is placed an anvil whose pointed tip bears against this compound. When the trigger is pulled, the firing pin sharply hits and indents the primer cup, pushing it against the anvil. This, in turn, compresses the priming compound, igniting it and creating a spark that goes through a flash hole to the powder. Such primers are located in the center of the case head; cartridges configured this way are called centerfire cartridges.

Some cartridges lack a central primer, but instead have a thin layer of priming compound that coats the bottom of the inside of the case, including the portion of the case that is folded to create a rim. With such cartridges, the firing pin hits the exposed case rim, indenting the thin metal and compressing the priming compound to create a spark. Today's rimfire cartridges are limited to relatively low-power .17- and .22-cal. rounds.

Powder

Though all firearms once used black powder to propel the bullet, ammunition for modern arms uses smokeless powder, which is made primarily of nitrocellulose (so-called single-base powders) or a combination of nitrocellulose and nitroglycerin (double-base powders). When the powder is ignited by the primer, it is rapidly converted to a large volume of hot, expanding gas that greatly increases the pressure inside the case and pushes the bullet down the barrel at high velocity.

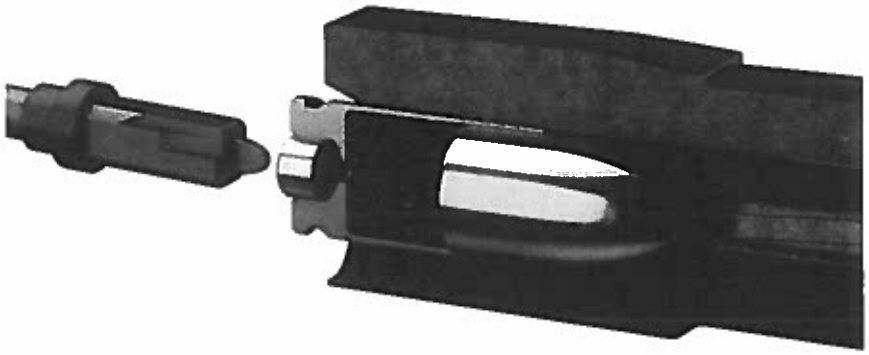
Smokeless powder is a propellant that burns at a controlled rate. Thus, powders for different purposes have different compositions, coatings, granule shapes and granule sizes, to produce optimal performance within safe pressure limits.

CARTRIDGE FIRING SEQUENCE

The firing of a cartridge in a firearm follows a specific sequence of events.

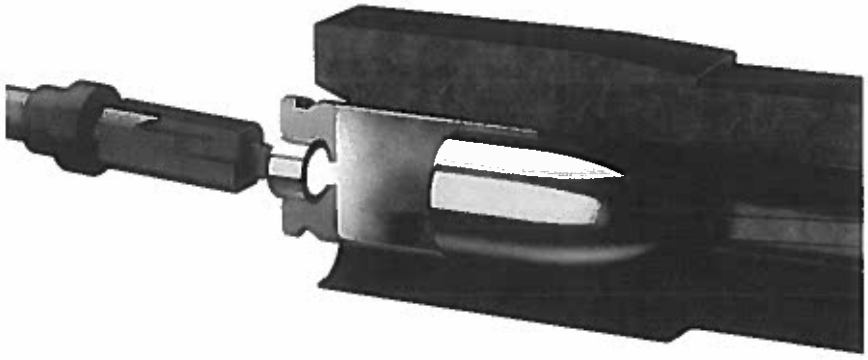
1

A cartridge is loaded in the chamber and the breech closed. The trigger is pulled, causing the firing pin to hit the cartridge primer or cartridge rim, in the case of rimfire cartridges.



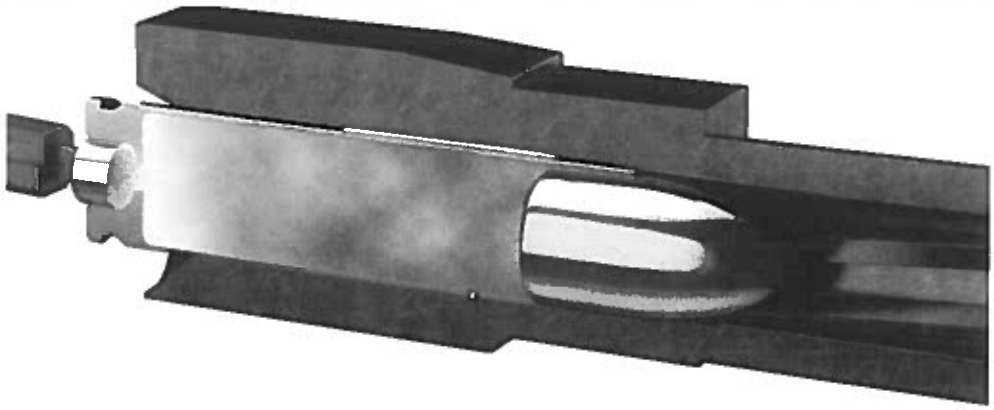
2

The primer explodes with a hot spark that ignites the powder in the case.



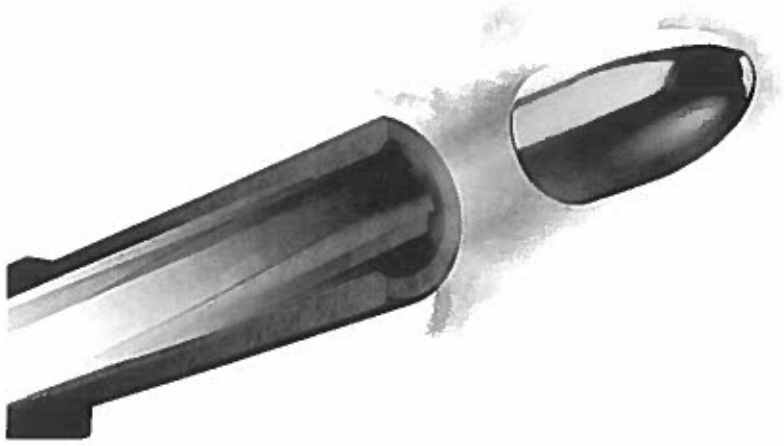
3

As the powder burns, it creates high-pressure gas that begins to push the bullet down the bore. Increasing pressure in the chamber also causes the case to expand outward tightly against the chamber walls, preventing gas leakage to the rear.



4

Continued combustion of the powder accelerates the bullet through the bore until it leaves the muzzle. The hot, high-velocity gas exiting the muzzle makes a loud "bang" when it hits the surrounding atmosphere.

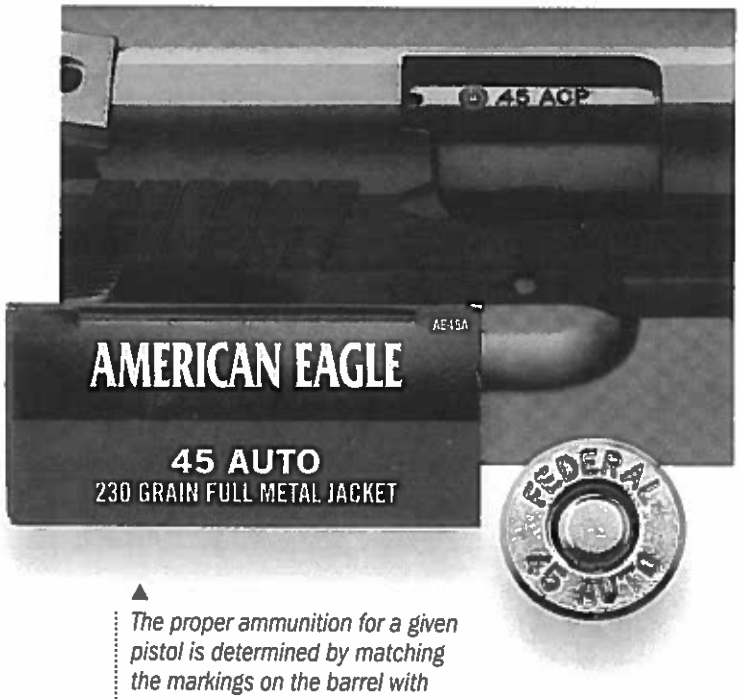


CARTRIDGE NOMENCLATURE

Cartridge nomenclature can be confusing, as there has never been a standardized procedure for naming cartridges. Basically, pistol cartridge names have two parts. The first part of the name is a number, either in millimeters or in decimal inch measurements (known as caliber), that represents either the bullet or bore diameter (often only approximately). Sometimes there are two numbers; European cartridges in particular are designated by both the bullet diameter in millimeters and the case length in millimeters (e.g., 9x19 mm).

The second part of the designation is far more variable, and may represent any of several things: the name of the company responsible for the cartridge's development (.40 Smith & Wesson); the individual who originated or designed the cartridge (.454 Casull); a popular or descriptive name (.38 Special); or, with military-designed cartridges, the firearm in which it was used (.455 Webley). A few cartridges have both decimal and metric designations, such as the .32 ACP and 7.65 mm Auto. Finally, some cartridges may be known by more than one name (9 mm Para, 9 mm Parabellum, 9 mm Luger, 9x19 mm).

For the pistol owner to select the proper ammunition for his or her firearm, all that is required is to match the designation on the barrel and/or slide with that on the cartridge box and the cartridge headstamp. If the barrel or slide of the firearm lacks a cartridge designation, or if there is a suspicion that the pistol may have been modified to fire a cartridge other than what is indicated by the markings, the gun should be taken to a competent gunsmith for an evaluation.



The proper ammunition for a given pistol is determined by matching the markings on the barrel with the cartridge designation on the headstamp and the cartridge box. (.45 ACP and .45 Auto are the same.)

AMMUNITION SAFETY

The primary factor in ammunition safety involves using the proper ammunition for the firearm. As mentioned above, the pistol shooter must ensure that the designation on the cartridge box, headstamp and gun barrel or slide all match.

Cartridges designated +P and +P+ are loaded to higher pressures than standard cartridges, and must only be used in guns certified for them. Check the markings on the gun, refer to the pistol's owner's manual, or contact the manufacturer to verify that your gun can safely fire +P or +P+ cartridges.

It should also be noted that some pistols are chambered for low-pressure cartridges that are identical in dimensions to higher-pressure rounds (such as the .38 Auto and .38 Super Auto +P). Such higher-pressure cartridges should never be fired in a gun designed for lower-pressure ammunition.

Ammunition in Fires

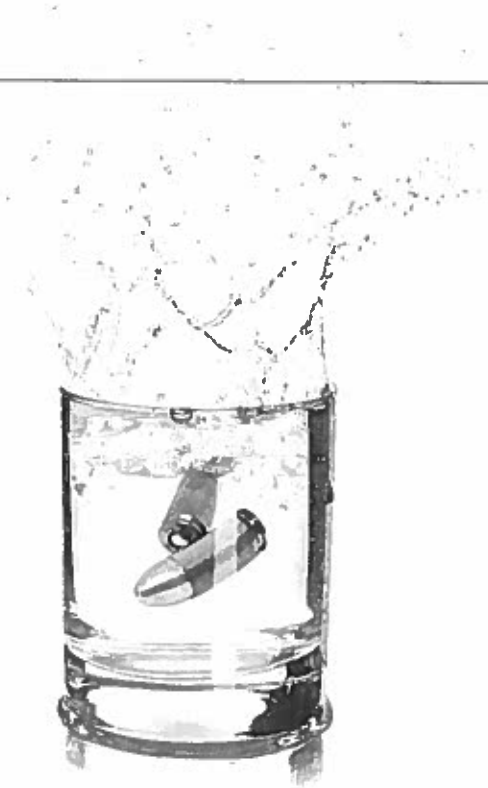
Extensive tests have shown that ammunition in a fire does not explode, or propel the bullet to dangerous velocities. In general, cartridges exposed to fire will burst, propelling the bullet only a few feet. The primer may be expelled at relatively high velocity, along with small shards of brass from the ruptured case, but these objects generally represent a danger only to the eyes, and only at very close range.

Safe Ammunition Storage

Ammunition should be stored in a cool and dry place; it can withstand the normal variations in temperature and humidity found in the typical home environment. Prolonged exposure to high temperatures is to be avoided. Also to be avoided is contamination by water, solvents, lubricants and so forth. Store ammunition in a location off the floor and protected from exposure to water, as from a leaky roof or damp basement.

Ammunition should also be stored in a manner to keep it from unauthorized persons, such as children and visitors to the home. Each gun owner has to determine what level of security is best suited for his or her environment.

In some cases, the pistol owner may choose to keep ammunition in a lockable container. Most gun shops will be able to make recommendations regarding the type of lockable container suitable for this purpose.



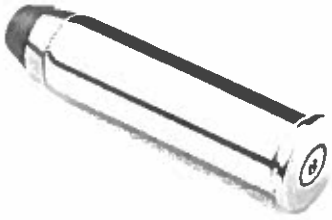
Disposal of Unserviceable Ammunition

Ammunition that has been in a flood or fire, has been immersed in water, or has been exposed to solvents, oils or other liquids, should not be fired. Instead, such ammunition should be considered unserviceable and must be disposed of. Never dispose of such ammunition in the trash. Proper disposal methods include delivery to a hazardous materials disposal center, law enforcement agency or range; or return of the unserviceable ammunition to the original manufacturer.

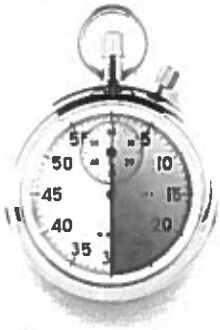
More information on ammunition safety can be found in free brochures from the Sporting Arms and Ammunition Manufacturers' Institute (SAAMI), 11 Mile Hill Road, Newtown, CT 06470-2359.

Cartridge Malfunctions

There are three types of cartridge malfunctions: **misfire**, **hangfire**, and **squib load**.

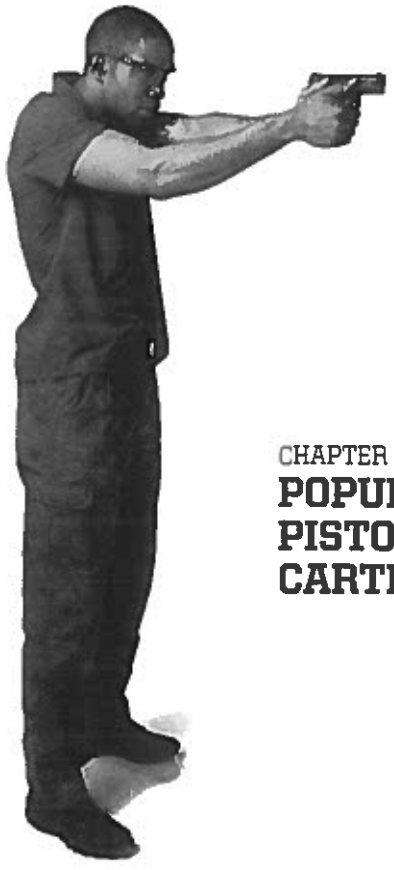


A **misfire** *is the failure of a cartridge to ignite when the primer or case rim has been struck by the firing pin. This situation may be caused by a defect in the cartridge or by a defect in the pistol that causes a weak firing pin strike.*



A **hangfire** *is a perceptible delay in the ignition of a cartridge after the primer or case has been struck by the firing pin. This delay may last several seconds. When a cartridge fails to fire immediately, it will not be known at first if the problem is a misfire or a hangfire. Therefore, keep the pistol pointed in a safe direction, as a hangfire condition might exist and cause the pistol to fire after a significant delay. Wait at least 30 seconds, then safely unload the pistol.*

A **squib load** *occurs when the cartridge develops less than normal pressure or velocity after ignition. Squib loads can cause a bullet to fail to exit the muzzle and become lodged in the bore. If anything unusual is noticed upon firing a shot, such as a reduction in noise, muzzle flash, or recoil, a squib load should be suspected. Stop firing immediately and, keeping the muzzle pointed in a safe direction, unload the pistol and check to ensure that all chambers are empty. Then, with the action open, carefully run a cleaning rod through the barrel to be sure that it is not obstructed. If a bullet is lodged in the barrel, firing another shot could cause injury or damage to the gun.*



CHAPTER 9:

POPULAR PISTOL CARTRIDGES

Rimfire Cartridges

.22 Long Rifle
One of the most popular cartridges made for pistols and rifles. Because of its low recoil, noise and cost, it is an excellent cartridge to use when learning how to shoot. Probably the most popular match cartridge in existence, it can also be used to hunt small game.

.22 Winchester Magnum
Introduced in 1959 by Winchester, it is an elongated and powerful .22 rimfire cartridge. It can be used for hunting small game.

Centerfire Cartridges

FN 5.7 mm
Developed by FN Herstal for use in their pistols and carbines. Mainly in use by specialized military and law enforcement units, the 5.7 mm offers high velocities and low felt recoil.

.25 ACP
Known in Europe as the 6.35 mm Browning, this cartridge was introduced in 1902 in conjunction with a small Colt semi-automatic pistol. It is the smallest commercially produced center-fire pistol cartridge. Many small pocket pistols are chambered for the .25 ACP.

.32 ACP
Commonly known in Europe as the 7.65 mm Browning, this cartridge was introduced in 1899 for use in the Browning-designed autoloading pocket pistol manufactured by Fabrique Nationale in Belgium. This cartridge is mainly used in small pocket pistols.

.380 ACP
(.380 Auto, 9 mm Browning Short, 9 mm Kurz, 9 mm Corto) Introduced about 1912 for a Browning-designed autoloading pistol manufactured by Fabrique Nationale in Belgium. Used in many small semi-automatic pistols, this cartridge also has many large semi-automatic models chambered for it, and has been used by uniformed police in Europe.

9 mm Luger (Parabellum, 9x19)
This cartridge was introduced in 1902 for the Luger pistol. The 9 mm Luger/Parabellum is one of the most popular pistol cartridges used today. It is used by the U.S. military and by NATO allies.

.38 Super Colt Automatic
Introduced in 1929 by Colt, the .38 Super is a more powerful version of the .38 ACP cartridge. Dimensionally the same as the .38 ACP but loaded to higher pressures, the .38 Super should not be fired in guns intended only for .38 ACP cartridges.

.38 Special
Introduced by Smith & Wesson about 1902. One of the most popular revolver cartridges made. Police officers around the country have traditionally carried .38 Special revolvers. This cartridge is available in standard pressure loadings, and in + P and + P + loadings. However, before using + P or + P + cartridges in a pistol, be sure that it is approved for such use.

.357 Magnum
Introduced by Smith & Wesson in 1935. More powerful than the .38 Special, the .357 Magnum is based on the .38 Special cartridge case lengthened by about 1/10th of an inch.

.357 SIG
Introduced in 1994 to recreate the ballistics of the .357 Magnum revolver for semi-automatic pistols, the short bottleneck case allows it to be loaded in 9 mm size guns thus packing a magnum punch into standard size semi-automatics.

.40 S&W
Introduced commercially in 1990 for use in semi-automatic pistols. The .40 S&W is a shorter version of the 10mm Auto cartridge, and produces less recoil and muzzle blast. For self-defense purposes, the cartridge still has very good kinetic energy.

10 mm Auto
Designed in early 1980s for the Dornaus and Dixon Bren Ten pistol, the 10 mm Auto cartridge has gained in popularity. Today, a number of manufacturers make pistols that are chambered for it. More powerful than the .357 Magnum, the 10 mm Auto cartridge brings magnum power to average-sized semi-automatic pistols.

.41 Magnum
Introduced by Remington in 1964 for the Smith & Wesson Model 57 revolver. The .41 Magnum and the .44 Magnum are similar in power, however, the .41 Magnum has not achieved the popularity of the .44 Magnum.

.44 Special
Introduced in 1907 by Smith & Wesson, this cartridge was designed to be more powerful than the .44 S&W Russian cartridge (which was originally loaded with black powder).

.44 Magnum
Introduced by Remington for Smith & Wesson in 1956. This cartridge was the most powerful standard handgun cartridge at that time. It is used in hunting medium sized game at close ranges.

.45 ACP
Developed by John Browning in 1905, and adopted as the U.S. military pistol cartridge from 1911 to the late 1980s, this cartridge is currently used in conventional and other types of pistol shooting competitions. It is also known as the .45 Auto.

.45 Colt
Also incorrectly referred to as the .45 Long Colt. Introduced in 1873 as a blackpowder cartridge for the famous Colt Peacemaker single-action revolver. Today, the .45 Colt is loaded with modern smokeless powder by many ammunition companies, and a number of gun manufacturers currently produce revolvers that are chambered for this cartridge.*

.454 Casull
Originally designed in the 1950s, this cartridge did not see commercial production until 1983. Today several firearm manufacturers offer pistols chambered in this caliber, with the primary uses being hunting and bear protection.

.460 S&W Magnum
A longer and more powerful iteration of the .454 Casull. The .460 S&W achieves extremely high velocities with heavy weight bullets, making it a favorite for big and dangerous game hunting.

.500 S&W
Designed in 2003 for the Smith and Wesson X Frame revolvers, the .500 S&W is the largest commercially made handgun caliber. A very capable big game caliber, it is also quite popular for bear defense in Alaska.

**Early-model Colt revolvers with serial numbers 160,000 and below were made during the era of black powder. Such revolvers should not be fired with smokeless powder ammunition.*

Notes:

SKI

SECTION 03

Building Pistol Shooting Skills

CHAPTER 10:

FUNDAMENTALS OF PISTOL SHOOTING

Successful pistol shooting is based upon the fundamental principles of marksmanship. These fundamentals are aiming, breath control, hold control, trigger control and follow-through. Although these fundamentals may be applied in different ways, depending upon whether the pistol is used for plinking, hunting, formal target shooting or self-defense, they must always be observed for the most consistent results.

Prior to mastering these fundamentals, the pistol shooter must address two other critical aspects of technique: hand and eye dominance, and grip.

Hand and Eye Dominance

Shooting any firearm involves coordination between the eyes and hands. Most people fire the gun with the dominant hand and aim with the dominant eye.

Most people have a dominant hand, making them definitely right- or left-handed. Relatively few people are truly ambidextrous, or able to perform skills involving manual dexterity equally well with either hand. In most cases, the dominant hand is easily determined, as it is the hand that is used for most one-handed tasks. The dominant hand and arm are often stronger and demonstrate better coordination.

Just as one hand tends to be dominant over the other, the brain also has a preference for one eye over the other, which is known as eye dominance. Most often the dominant eye is on the same side as the dominant hand, but there are many individuals in whom this is not the case. Many people are not even aware that they have a dominant eye, as in almost all normal activities, both eyes act in concert, and there are few if any normal activities in which one eye only is used. Eye dominance is important in shooting, however, as only one eye is used to aim.

Determining eye dominance

With both eyes open, focus on a small object at least 10-12 feet away.

Then extend both hands forward at arm's length, bring the hands together to form a small hole between the webs of the thumbs, and look at the distant object through this hole.

Slowly bring the hands to the face, keeping the object in view through the hole between the hands. When the hands are only a few inches from the face, they will be in front of one eye or the other. That eye is the dominant eye.

GRIP

There are many shooting positions which may be used for firing a pistol, some of which are specific to certain shooting disciplines. Even before any shooting positions can be introduced, the new pistol shooter must know how to assume a proper one- or two-handed grip.

Grip consistency is essential for accurate shooting. Use dry-fire practice to check and reinforce the correct trigger finger placement. Note that the proper grip for one firearm may not be appropriate for another firearm; your grip may vary depending upon the shape of a gun's grip frame. Also, your grip may vary slightly from position to position.

The Two-Handed Grip

For most pistol shooting activities, a two-handed grip will be used. The vast majority of pistol shooters find that such a grip provides more control of the firearm, steadier aiming, better recoil absorption, and stronger gun retention.

To assume the grip, first grasp the pistol behind the muzzle in the support (non-firing) hand. Make a "Y" of the thumb and fingers of the firing hand.

Place the gun's backstrap firmly in the web of the firing-hand thumb.

When this is done, wrap the firing-hand fingers around the pistol's grip.

4

Next, bring the support hand around the front of the grip. Support hand fingers overlie and overlap the firing-hand fingers.

5

The knuckles of the second joint of the support-hand fingers should be roughly aligned with the same knuckles of the firing hand. Gripping the gun with tension from both the support and firing hands creates a steadier hold on the pistol.

6

With a semi-auto, the support-hand thumb should lie directly forward of and below the shooting-hand thumb. However, with a revolver, the support-hand thumb lies directly overtop the firing-hand thumb.

The One-Handed Grip

The one-handed grip was at one time the most common way to hold a pistol. Today it is used primarily in certain forms of target competition, such as NRA and International bullseye shooting. One-handed shooting may also be practiced by those who own a pistol for self-defense. A description of the one-handed grip is found in Chapter 14: The One-Handed Shooting Position.

▲ **Sight alignment** *is the proper relationship between the front and rear sights;* **Sight picture** *is the proper relationship of the aligned sights with the target.*

Aiming

Aiming is the process of aligning a firearm with a target so that a bullet fired from that firearm will strike the target where desired. In other words, the point of aim will coincide with the point of impact. Aiming is accomplished using the gun's sights. Most pistols feature iron sights (non-optical sights) consisting of a flat-topped front post and a square-cornered rear notch.

Aiming consists of two stages: **Sight alignment** and **sight picture. Sight alignment** refers to the proper positioning of the shooting eye, the rear sight, and the front sight in relation to each other. With the notch-and-post system on most pistols, proper sight alignment for precise shooting occurs when the front post is centered laterally in the rear notch, with the same amount of space on either side of the post, and the tops of both the post and the notch are aligned.

Sight picture refers to the relationship between the gun's properly aligned sights and the target. This relationship will vary, depending upon the pistol shooting activity in which one is engaged. In traditional bullseye target shooting, the aligned sights are placed at the 6 o'clock position in relation to the round black bull. In other target sports, such as pistol silhouette, cowboy action and practical pistol shooting, the aligned sights are placed at the center of the target. In hunting, the proper sight picture depends upon the vital area of the game being hunted. And for defensive shooting purposes, the pistol's aligned sights are placed on the center of exposed mass of the target. That is, the sights are placed in the middle of the target area that is exposed. Note that the 6 o'clock hold used with bullseye

targets applies only to iron sights. Shooters using optical (telescopic) sights or red-dot sights put the crosshairs or dot exactly at the spot on the target where a hit is desired.

Visual focus with iron pistol sights should be on the front sight. This will often make both the rear sight and the target somewhat blurry, but in almost all situations they will be sufficiently clear for the shooter to establish good sight alignment and proper sight picture.

Breath Control

Breath control is the method used to minimize gun movement due to breathing. With each breath, your ribcage expands and your shoulders rise slightly. This movement is transmitted to your arms, causing your pistol to shift position in relation to the target.

In pistol activities involving a deliberate and unhurried pace of shooting, breath control is achieved by simply taking a few normal breaths, expelling about half the air out of the lungs, and then holding the breath for the few seconds required to fire the shot. Typically, maximum steadiness is achieved within about three to eight seconds after breathing has stopped; the shot should thus be fired within that time period. After the shot is fired, the shooter relaxes, resumes breathing and starts the process over again.

In any situation in which the shooter may need to fire a shot quickly, under mental or physical stress, the heart will be pounding and the lungs will be demanding air. Breath control under these circumstances involves simply stopping breathing and holding it. Breathing should simply cease momentarily while the shot is being fired. This will steady the position and allow for a quick shot or series of shots.

Hold Control

Maximum accuracy is achieved when the firearm is held motionless during the process of aiming and firing. Hold control is the method by which both the body and the gun are held as still as possible during the period of time when the shot is fired.

Hold control is achieved primarily through a proper grip, and a well-balanced, stable shooting position that is naturally aligned with the target, as well as extensive practice. Physical fitness and good muscle tone also contribute to a steady hold. Some positions allow a more stable hold than others. More information on positions and on target alignment is found in Fundamentals of Pistol Shooting Positions.

Some novice shooters make the mistake of firing a string of shots without allowing the arm and shoulder muscles to rest. The first two or three shots may be fired accurately, but by the fifth or sixth shot, muscle fatigue sets in, producing tremors and other movement that prevent good shooting. Until the muscles that hold and support the pistol are strengthened, the shooter should fire only a few shots, and then lower the gun to rest.

Trigger Control

Trigger control is one of the most important shooting fundamentals. The term refers to the technique of pulling the trigger without causing any movement of the aligned sights.

Proper trigger control is achieved by applying gradually increasing pressure to the trigger until the shot is fired. This pressure is applied in a rearward direction, not to the side or up or down. The goal of this technique is to produce a "surprise break," in which the shooter cannot predict the exact moment at which the gun will fire.

A surprise break is desired to prevent the shooter from anticipating the shot. New shooters are not accustomed to the recoil, flash and blast that occur when a gun is fired, and thus are prone to reacting more or less instinctively by tightening their muscles, squinting their eyes, and making movements that attempt to counteract the gun's recoil. These involuntary movements are collectively called flinching or anticipating the shot, and have a negative effect on accuracy by disturbing sight alignment and sight picture just before the shot is fired.

Even in a shooting situation in which a slow, gradual pull may not be possible, such as during a hunt or a defensive encounter, trigger control should still be practiced. In such situations, trigger control involves speeding up the process of squeezing the trigger without jerking or flinching. The more smoothly the trigger is pulled, the less the gun's sights will be disturbed during the firing process, even when the time period is compressed.

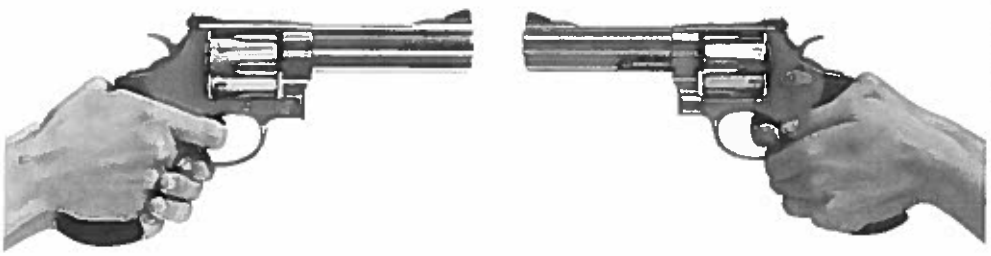
Good trigger control also involves the proper placement of the trigger finger on the trigger. A properly placed trigger finger allows the force of the pull to be directed straight to the rear, minimizing a tendency to jerk the gun to the right or left. Proper placement also allows the gun to be fired by moving only the trigger finger.

For single-action shooting, the trigger should be pulled using the middle of the last pad of the trigger finger. For double-action shooting, the trigger should be placed approximately on the joint between the last and middle pads of the trigger finger. The ideal trigger finger placement can be achieved through dry-fire practice at a sheet of white paper. Adjust your finger position until there is no movement in sight alignment when the trigger is pulled and the hammer or striker falls. Note that the proper contact point on the trigger finger may change from gun to gun and firing position to firing position.

If possible, there should also be a small gap between the trigger finger and the pistol frame to prevent the finger from contacting or dragging on the frame and thus disturbing sight alignment as the trigger is pulled.

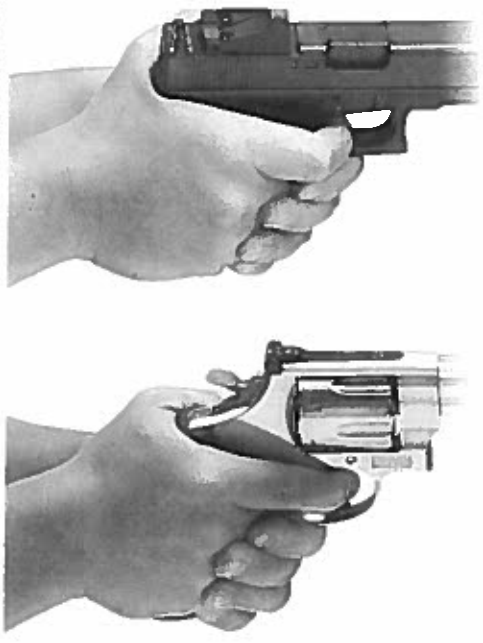
Trigger Finger Placement

▲ *Proper trigger finger placement on a semi-automatic pistol.*



▲ *Proper trigger finger placement on a revolver.*

Trigger Finger Gap



▲ *The proper gap between the trigger finger and the frame of a semi-automatic (top) and a revolver.*

Follow-Through

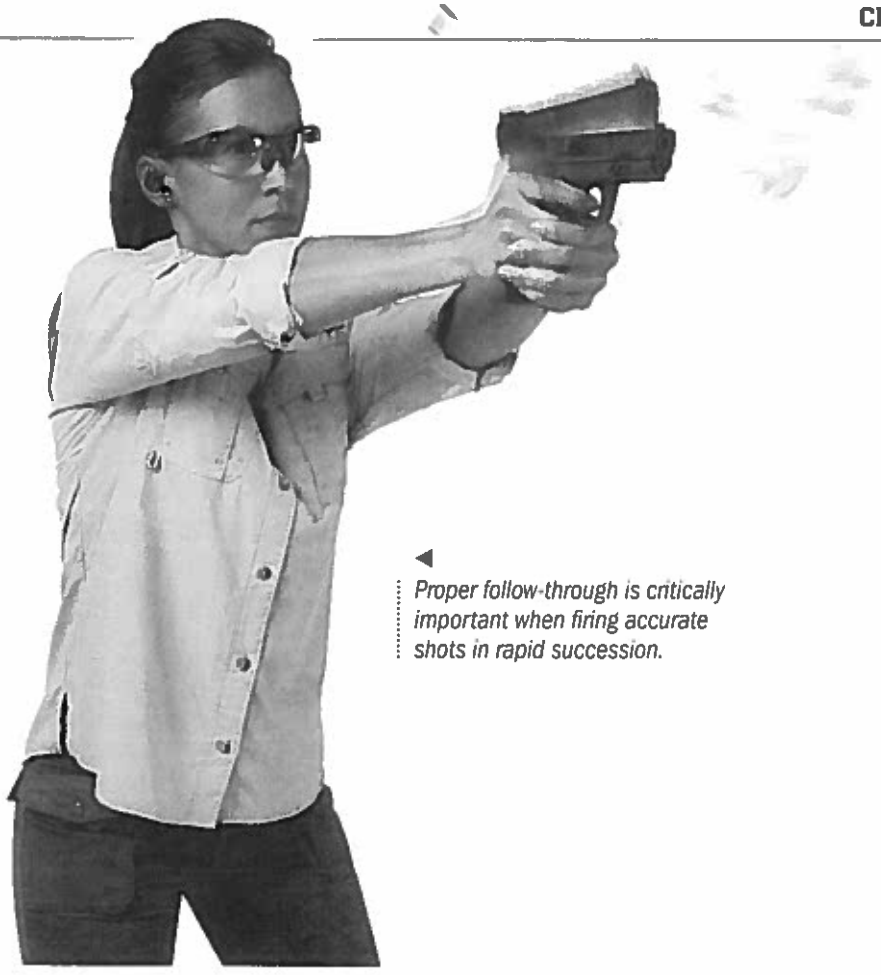
The concept of follow-through is common to many sports, such as golf, tennis, baseball, bowling and archery. In shooting, follow-through is the effort made by the shooter to integrate, maintain and continue all shooting fundamentals before, during and immediately after firing the shot.

It is true that any alteration in the gun position, stance, sight alignment, and so forth that occurs after the bullet has left the muzzle has no effect whatsoever on accuracy or shot placement. Nonetheless, it is important to consciously maintain the shooting fundamentals for a brief time after the shot has been fired because only by doing so will you be absolutely certain that those fundamentals are applied before and during the firing of the shot. Thus, proper follow-through minimizes gun movement as the shot is fired. A shooter who fails to follow through and applies the fundamentals only up to the breaking of the trigger will (in anticipation of the shot) sooner or later abandon one or more of the fundamentals just prior to firing, resulting in errant bullet flight and poor grouping.

Proper follow-through does more than just ensure adherence to the shooting fundamentals through the firing of the shot. Follow-through also sets up any successive shots, whenever a shooter may be called upon to fire multiple times accurately and rapidly. The follow-through used in these situations is highly compressed to last only a fraction of a second, but still allows the shooter to maintain a position in alignment with the target and to quickly recover the proper sight picture.

During follow-through, the trigger finger pressure is relaxed, allowing the trigger to reset. However, the trigger finger still maintains contact with the trigger face.

All of the fundamentals of pistol shooting are integrated in the firing of a shot, no matter what the target. The shooter aims (maintaining both sight alignment and the proper sight picture) while momentarily stopping respiration (breath control) and movement (hold control). Only the trigger finger, properly placed, is moved to fire the shot (trigger control). Before, during and after firing, the shooter observes all the proper shooting fundamentals (follow-through). The two most important fundamentals are aiming and trigger control.



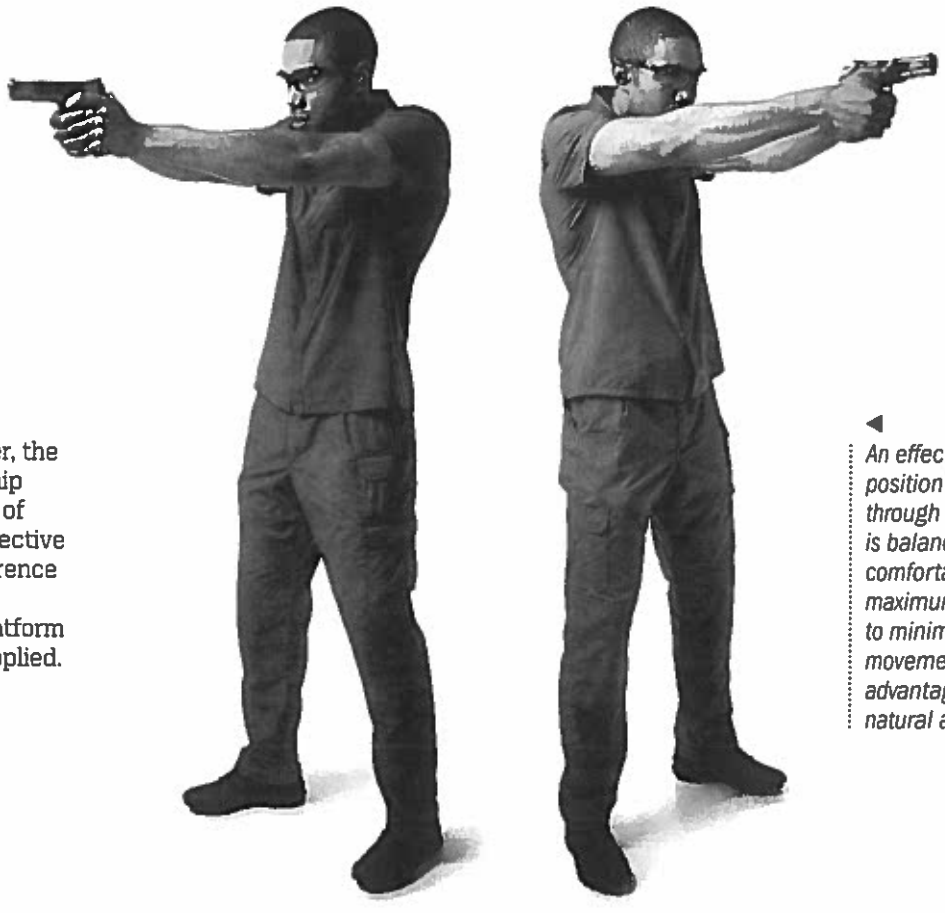
Proper follow-through is critically important when firing accurate shots in rapid succession.

Notes:

CHAPTER 11:

FUNDAMENTALS OF PISTOL SHOOTING POSITIONS

As presented in the previous chapter, the fundamentals of pistol marksmanship are observed regardless of the type of pistol shooting being performed. Effective shooting takes more than just adherence to these fundamentals, however. An effective shooting position is the platform from which the fundamentals are applied.



An effective shooting position is achieved through consistency, is balanced and comfortable, provides maximum support to minimize gun movement and takes advantage of your natural aiming area.

Elements of a Shooting Position

Although there are many effective shooting positions for different situations, all share a number of common characteristics: consistency, balance, support, natural aiming area and comfort.

Consistency

Consistency is critical because variations in position produce variations in impact point and/or group size. You must strive to assume each position in the same exact way every time.

In the training phase, this is accomplished by conscious attention to each aspect of the position and each step taken to assume it. With repetition, this process of developing a position "by the numbers" will become ingrained in your subconscious, eventually enabling you to flow into the position quickly, effortlessly, naturally and consistently. The "muscle memory" thus developed through rigorous practice will allow the position to be assumed easily and automatically.

Balance

Balance is also an essential component of a proper firing position. Balance is usually best achieved in a stance with the feet spaced at shoulders-width, even weight distribution, and a slightly forward lean with the majority of the weight on the balls of the feet.

A balanced position provides the most stable shooting platform, one that absorbs recoil and facilitates both movement and accurate follow-up shots. A balanced position with the head upright and level also is important for controlling body movement. The brain senses body position by a number of mechanisms, including a structure in the inner ear known as the labyrinth. An upright, level head position will maximize the ability of the labyrinth to promote body equilibrium and efficient body movement.

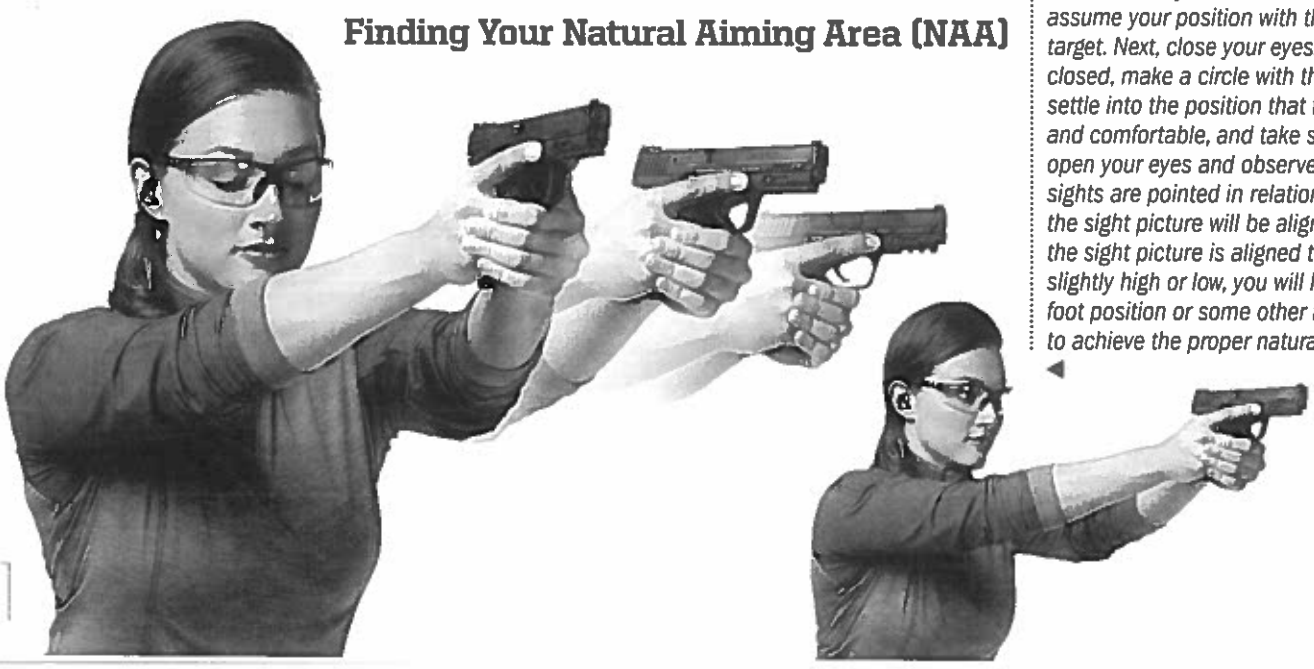
Support

A good position also offers support to minimize gun movement while aiming. Support can be provided by the skeleton, muscle tension or an external object, such as sandbags on a bench. A two-handed grip, for example, efficiently uses muscle tension to provide more support than a one-handed grip. Generally, standing positions offer less support than kneeling and prone positions. The benchrest position provides the most support of any shooting position (*see* Chapter 12: The Benchrest Position). Even the more limited support offered by one-handed positions can be maximized by ensuring that the stance is balanced, the grip is firm, and the shooter is properly aligned with the target.

Natural Aiming Area (NAA)
All effective firing positions incorporate the shooter's natural aiming area (NAA). NAA refers to the natural alignment of the shooter and the gun in any position. When proper NAA is achieved, the "wobble area" of the sights will be centered on the target.

Repeat the NAA exercise until your stance is adjusted for the proper natural alignment. You should make every effort to adopt this same alignment each time the stance is assumed in order to take advantage of your NAA. Also, periodically repeat the NAA exercise, as changes in shooting experience, posture, age and so forth can affect the body's natural alignment.

Finding Your Natural Aiming Area (NAA)



To determine your Natural Aiming Area (NAA), first assume your position with the gun aimed at a target. Next, close your eyes. With your eyes still closed, make a circle with the pistol, and then settle into the position that feels most stable and comfortable, and take several breaths. Then, open your eyes and observe where your gun's sights are pointed in relation to the target. Ideally, the sight picture will be aligned with the target. If the sight picture is aligned to the right or left or slightly high or low, you will have to modify your foot position or some other aspect of your stance to achieve the proper natural alignment.

Comfort

Finally, a proper position should be comfortable. A stance that is not comfortable–one that is forced, awkward, strained or painful–is unlikely to be consistent or stable, and thus will not contribute to effective shooting. When practicing shooting positions, you should be conscious of how natural and comfortable each position is. Positions that do not feel comfortable must be modified as necessary. However, in some cases discomfort may be the result of the lack of joint flexibility or muscular strength. In such cases, a minimal amount of physical training is usually all that is needed to allow the shooter to comfortably assume a proper shooting position. Of course, any shooter should consult his or her doctor prior to starting any physical training regimen.

Learning A Shooting Position

The pistol shooter may have the need to learn only one or two, or many, shooting positions. Whether the position is simple or complex, the process for mastering it is the same, and involves a specific process.

The first step in learning a shooting position is to study the position. This means knowing what is involved in the position, how it is assumed, and the purpose of the position.

The second step is to practice the position without a pistol. Just about every shooting position places special demands upon the shooter in terms of balance, coordination, hand and foot placement, and more. Practicing these aspects of the position without a pistol simplifies the position, breaking the learning process into a number of steps that build upon each other.

Next, practice the position with an unloaded pistol. Any shooting position can effectively be practiced using an empty gun in the dry-fire mode, with care taken to observe all dry-firing safety rules (*see* Pistol Shooting Activities and Skill Development).

During dry-fire practice, align the position with the target. Each shooter will have a different alignment with the target for each shooting position. Perform the Natural Aiming Area (NAA) exercise described earlier in this chapter with every shooting position learned.

Once the position has been acquired using an empty gun, test the position with live ammunition. Live-fire testing will reveal if there are aspects of the position, or the shooting fundamentals, that need to be corrected.

After the skills presented in this chapter have been mastered, proceed to learning the various shooting positions. The positions taught in the NRA Basic Pistol Shooting Course are the Benchrest position and the Isosceles two-handed standing position. The Weaver two-handed standing position is also presented in this book. These positions, presented in succeeding chapters, should suffice for the great majority of shooting activities in which the novice will take part. However, because there are some activities, such as NRA bullseye pistol shooting, in which the pistol is fired with one hand only, a one-handed position is described in Chapter 14: The One-Handed Shooting Position.