

MOVIE GUN SAFETY

FOR FILMMAKERS AND PERFORMERS

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This in-depth safety course is not a comprehensive Weapon Handler or motion picture Armorers course; it has been designed with the objectives of training Filmmakers and Performers in the safe use of blank-firing firearms, and alternatives to firearms used in motion picture production; to make Filmmakers and Performers aware of their responsibilities and liabilities, how to work safely and effectively with motion picture Armorers and Weapon Handlers, and; to establish general and basic safety practices in order to protect Filmmakers and Performers when replica guns and blank firing firearms are employed in the workplace. All legal references are made for operations within the United States of America. This Material is copyrighted material and may not be reproduced without the express written permission of the copyright holder.

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COURSE MATERIAL: MOVIE GUN SAFETY

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1.2 ETHICAL

Whether you are a Producer, Director, Weapon Handler, Performer or Stunt Person, safety is everyone's responsibility. Safety overrides the needs of the production and every other consideration. Only fools believe the adage, "*pain is temporary, film is forever*". Out of the tens of thousands of movies made every year worldwide, only a single digit percentage gain meaningful distribution, while the rest are never seen or even remembered by anyone. Film is *NOT* forever, whereas, even mild injuries can last a lifetime, and tragedies are the only thing that's forever about most films where safety was a secondary consideration. Producers need to make sure that a safety protocol is in place and adhered to, while the Director and Assistant Director must have enough expertise to identify potential problems with the firearms offered to them for inspection by the Weapon Handler, who must, in turn, possess the expertise to inspect firearms and blank ammunition for any potential problems that may threaten the safety of everyone involved. Because blank-firing firearms have killed several Performers in the past, the ethical responsibility of all involved is to create and maintain "layers" of safety, from the Performers on up to the Producer. Additionally, it is unethical to expose any Cast or Crew Member to any level of danger without having liability insurance. If someone does get injured on the job, they should not have to forego medical attention and treatment, lose their income for any period of recovery, simply because "*insurance just wasn't in the budget*". Imagine finding yourself in that position without any insurance coverage to pay your medical bills.

1.3 OPERATIONAL

The practicalities of maintaining "layers" of safety may appear time consuming, however, scenes that require blank-firing firearms also require sufficient time to execute safely and successfully. There is no way to expedite that process without compromising someone's safety. It takes time to load magazines, it takes time to inspect firearms, it takes time to collect, clean and reload firearms. Scenes with firearms take considerably more time to set up than filming two people sitting at a table talking because it's complex action with the potential for disaster if anyone gets careless. The rule of thumb is "*walk, don't run*", take as much time as necessary to follow your safety procedures and protocols, step by step, without rushing through them, even when the sun is setting on your filming day. That kind of failure in planning the filming day does not justify exposing anyone to the potential of being injured or having a gun disappear in the confusion. When running that fast, bad things happen. So "walk", figuratively, so everything remains under control at a reasonable and steady pace that everyone can keep up with, without running to keep up.

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1.0 INTRODUCTION TO MOVIE GUNS

The legal, ethical, operational liabilities and gaining Police clearance.

1.1 LEGAL

First, be aware that the brandishing and discharging of any firearm within most City limits is illegal; the City and Police Department grant permits and clearances, exempting filmmakers from those ordinances in order to provide for the operations of motion picture productions to brandish firearms in public, including replicas, and for the firing of blank cartridges for entertainment production purposes only. These permits and clearances *DO NOT* include the firing of any cartridges with projectiles of any kind, that is to say, *NEVER* any “real bullets” are to be discharged on a motion picture production for any reason. Any time firearms are on set, safety becomes the main focus. In the United States, it is illegal for “Prohibited Persons” to handle firearms. A “Prohibited Person” is anyone with a criminal or psychiatric history that Federal or State laws prohibit from being in possession of a firearm, with grave penalties for the violation thereof. It is also illegal for Producers to put a blank-firing firearm into the hands of a “Prohibited Person” and those penalties are grave as well. Compliance with those laws is difficult for Producers because privacy laws do not allow the Producer to perform a background check on anyone’s criminal or psychiatric status. This is a liability without clear remedy. However, it is advised that you demonstrate having confirmed by some means, that does not infringe upon anyone’s right to privacy, that they are not prohibited before unknowingly violating any Federal or State laws to help limit your liability as a Producer. A signed disclosure statement which testifies that the individual is not a “Prohibited Person” is a practically acquired piece of documentation that *may* limit the liability of the motion picture Producers, as long as it is a voluntary statement to the degree that it does not bar employment, just as a requirement to handle firearms within the production. Another U.S.A. liability to be aware of is complying with the National Firearms Act (NFA), enforced by the Federal Bureau of Alcohol, Tobacco and Firearms (BATF). Some firearms are controlled by the government, such as machineguns, short-barreled rifles, “sawed-off” shotguns, destructive devices, etc. Just because a firearm has been adapted to fire blanks, NFA regulations still apply in full force. If you “make” a short-barreled rifle without Federal BATF approval, the penalty for such a violation is measured in decades of prison time. It’s very serious business. Never “make” any NFA weapon without first consulting the BATF for taxes, compliance and the proper procedures to do so lawfully. Possession of the parts alone may often constitute an NFA violation, so *ALWAYS* consult with the BATF *FIRST*.

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1.4 POLICE CLEARANCE

Making motion pictures on public property requires the cooperation of your local government and Law Enforcement, who are often supportive of our industry for the local economic boost motion picture production represents. With a liability insurance certificate, with the City or County named as a beneficiary, many Departments and Offices will go above and beyond to expedite the needs of a motion picture production. Don't fear the bureaucracy, Cities and Counties are typically eager to help bring motion picture production into their areas. Operationally, there are two types of clearances necessary for filming with blank-firing firearms within city limits: *Public Property* and *Private Property*. When filming on *Public Property*, the liability of the City or County becomes an issue and an insurance certificate naming the City or County as a beneficiary becomes necessary. If you are not blocking traffic, or commerce, or any public access, then you may film practically anywhere you wish, provided that no one makes a valid complaint. However, you must always inform the Police or Sheriff Department of where you will be operating, especially if you shall be displaying any replica or discharging blank-firing firearms in public. Consider the reaction of a Law Enforcement Officer when they patrol past your Actors waving assault rifles, unsure if you're making a short film or robbing a liquor store. Call the non-emergency number for the Police or Sheriff Department and notify them of your operations, especially mention it when you intend to fire blanks or just have guns displayed in public. When you know beforehand that your production will not be "low-key", with a potential to draw complaints for noise, blocking access, or late night activity, then a filming permit would become necessary. Filming permits, sometimes called "Civic Event" permits are free, but blocking off a street is a little more complicated because traffic needs to be diverted and re-routed. This can quickly become an expensive affair. When you film on *Private Property*, even on your own property, it is absolutely necessary to notify the Police or Sheriff Department of your operations when discharging blanks. You are not required by law to have insurance because the property any accident occurs on can easily be auctioned off by court order to pay off any medical or civil liabilities. Regardless of whether you are filming on Public or Private property, ALWAYS notify Law Enforcement whenever firing blanks or displaying weapons by calling the Police or Sheriff Department's non-emergency telephone number to gain clearance and have them notify their Officers or Deputies in the field.

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2.0 TYPES OF MOVIE GUNS

When to employ blank firing “real” guns, when to employ non-guns, PFC guns, Airsoft guns, replica guns and rubber guns within a production.

2.1 EMPLOYING BLANK-FIRING GUNS

Obviously, blank-firing firearms are not always necessary for every scene where a firearm is seen on-camera - *if it isn't firing*. The only two times you really need to use a real blank firing firearm is when it is being fired on camera, or used for an extreme close up, when certain details need to be as “real” as possible. But be aware that there are certain places where firearms are forbidden, such as a school or an airport, where you will have to use alternatives to firearms. You will occasionally see theatrical “blank guns” that fire 8 millimeter blank cartridges but they are typically fragile and poor in appearance.

2.2 EMPLOYING “NON-GUNS”

A popular alternative to a blank-firing firearm is a device called a “non-gun”, which is the trade name for a replica weapon that electronically ignites tiny flashbulbs fitted into the muzzle. These devices can be rented from Independent Studio Services in Sunland, California. The flashbulbs are not cheap. They have a drawback however, they just fire a flash without any recoil, without flying brass, or any gunsmoke.

2.3 EMPLOYING PLUG FIRE CARTRIDGE (PFC) GUNS

An excellent alternative is the PFC gun. It combines the detailed construction and legal replica status of the Airsoft guns with the functionality of discharging a special brass blank cartridge in a blank-only firing mechanism that produces the effect a real machinegun would produce, without ever accepting real ammunition, so it doesn't legally qualify as a gun. That means you can use it anywhere without the legal hassles, yet it has recoil, flying brass with gunsmoke, just like a real gun. They cost almost as much as a real gun and the special cartridges cost five dollars each but they're easily re-useable and reloadable at 5 cents per load but they do take time to reload on set.

2.4 EMPLOYING AIRSOFT, REPLICA & RUBBER GUNS

“Airsoft” is not a brand but a type of replica firearm, typically made in Japan, that launch polymer BB's. Some models do nothing more than look very, very real, while others have actual cycling actions that mimic real guns using compressed gas, although there is no flying brass or gun smoke. They are relatively inexpensive and look good on-camera, especially if you add muzzle flash and gunsmoke in post production. When a Stunt Person needs to take a fall with a gun in their hand, a rubber gun protects them from being struck by a heavy metal gun.

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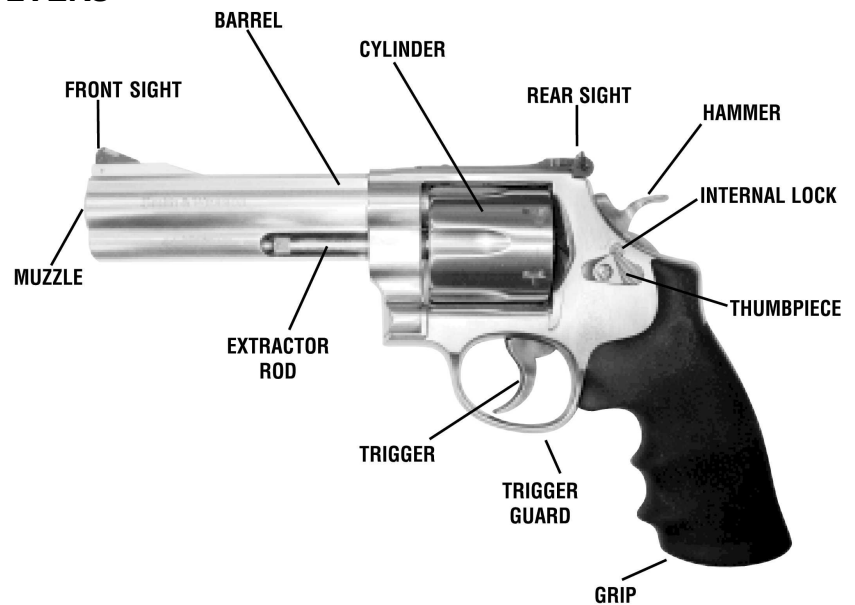
3.0 NOMENCLATURE

Knowing the terms for firearm components is essential for communicating with everyone involved with handling or operating firearms on a motion picture production. Below are the nomenclatures for several types of firearms.

3.1 HANDGUNS

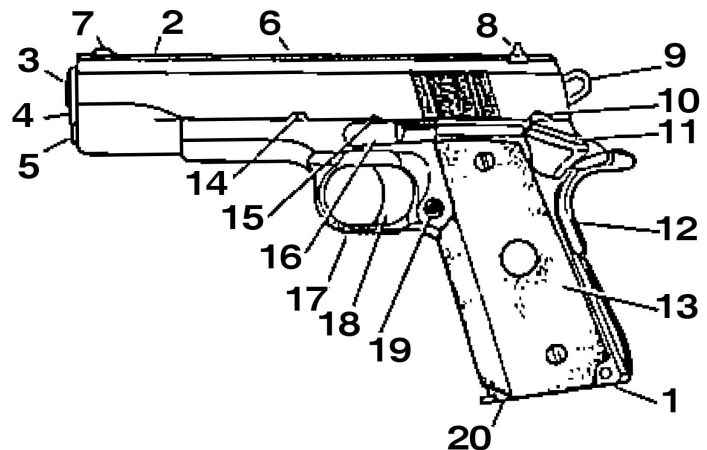
Individuals must be 21 years of age or older to be in possession of a handgun, and not be a "Prohibited Person".

3.1.1 REVOLVERS



3.1.2 SELF-LOADING PISTOLS

1. Receiver
2. Slide
3. Barrel
4. Bushing, Barrel
5. Plug, Recoil Spring
6. Ejection Port
7. Sight (front)
8. Sight (rear)
9. Hammer
10. Notch, Safety
11. Safety, Thumb Lock
12. Safety, Grip
13. Grips
14. Notch, Slide Lock
15. Notch, Disassembly
16. Lever, Slide Stop Lock
17. Guard, Trigger
18. Trigger
19. Release, Magazine
20. Magazine

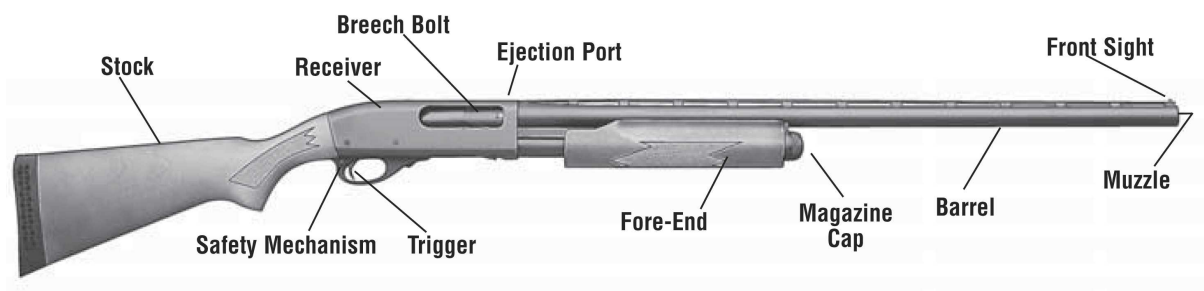


COURSE MATERIAL: MOVIE GUN SAFETY

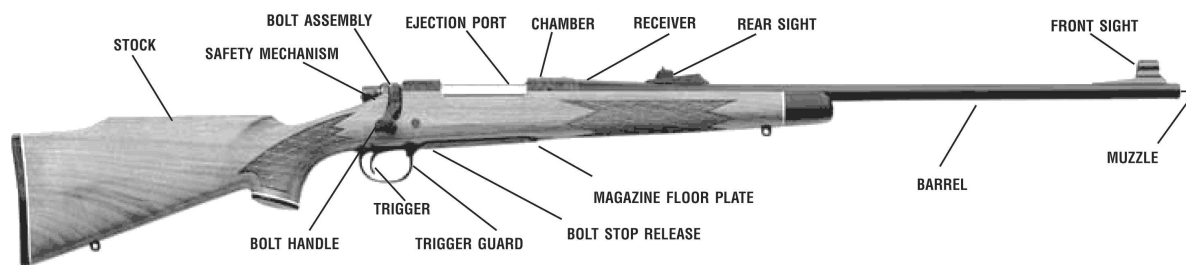
3.2 LONG GUNS

Individuals must be 18 years of age or older to be in possession of a long gun, and not be a "Prohibited Person".

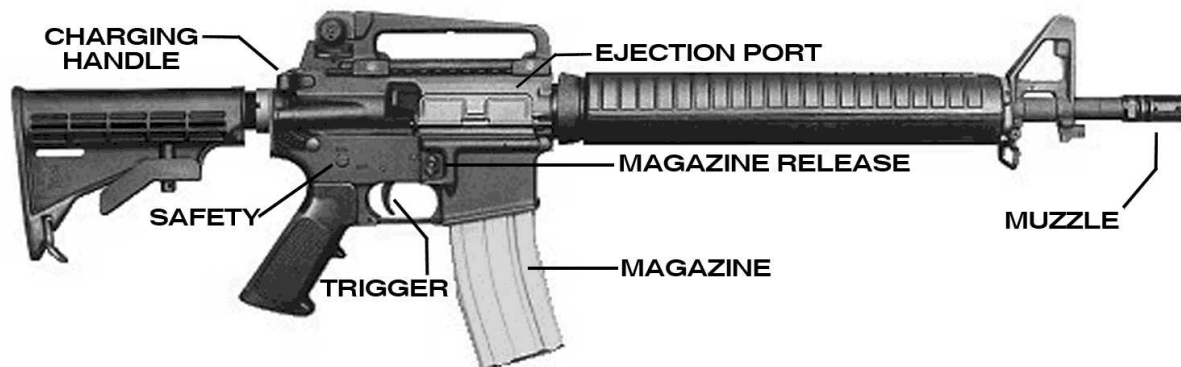
3.2.1 PUMP ACTION SHOTGUN



3.2.2 BOLT ACTION RIFLE



3.2.3 SELF-LOADING & AUTOMATIC ACTION RIFLE



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4.0 FIREARM ACTION TYPES

Many firearms are of the “Repeating” type, in that they have been designed to “fire” more than a single “shot”, able to discharge a plurality of cartridges. All firearm designs are derivatives of several basic types. The means by which the action is cycled for a subsequent discharge sometimes affects its ability to cycle blank cartridges, depending on the action type, and also the blank cartridge shape. All single shot firearms can discharge a single blank without any modification. All double shot firearms, such as derringers, over-under shotguns and double barrel shotguns can discharge two “blanks” without any modification to their actions as well.

4.1 NON-ADAPTED BLANK-FIRE FIREARMS

Typically, most manually cycled repeating actions do not require any modification to cycle blank ammunition. The shape of the blank ammunition is sometimes a factor in the ability to cycle the action.

4.1.1 REVOLVING ACTIONS

Because a revolver cycles the discharge of cartridges by means of a revolving cylinder, manually actuated by the hammer or trigger, the cartridges have already been “fed” into the revolving breech by hand, when the firearm was loaded. This means, because the cartridges do not have to be “fed” by the action, the blank cartridge mouths do not require a conical shape. Blank cartridges may be open ended, plugged by a wad of some kind. Revolvers do not require any modification or adaptation to discharge blank cartridges, nor should you ever make any modifications without first consulting a qualified gunsmith.

4.1.2 BOLT, LEVER & PUMP ACTIONS

Although all cartridges in this group need to be “fed” into the breech of a firearm, not all require a conical shaped blank cartridge to be cycled, such as a shotgun because shotgun cartridges are typically flat-ended in design. However, bolt action firearms, such as hunting rifles, require conical shaped blank cartridges in order to “feed” properly. The same holds true for lever action firearms, such as the Henry and Winchester “Cowboy” guns. Despite the fact that bolt and lever actions can often be cajoled or forced to feed a non-conical shaped blank cartridge, it is strongly recommended to avoid that practice because it can not only fail to “feed” while filming, it can also pose a grave danger to the firearm operator if the cartridge detonates without the breech fully closed. Always use conical shaped blank cartridges with lever and bolt actions.

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4.2 ADAPTED BLANK-FIRE FIREARMS

Typically, most self-loading actions, both automatic and semi-automatic repeating firearms, require modifications to fire and cycle blank ammunition. This is because the energy of either the recoil or gas expulsion is exploited to operate the action, which depends on the energetic contribution of a projectile. Without a projectile performing its function, self-loading actions will not typically cycle blank ammunition. Also, the conical shape of the blank ammunition is necessary to “feed” properly in all self-loading actions except shotguns. It should be noted that self-loading automatic and semi-automatic actions present another caveat to safety - hot brass cartridge casings, forcibly ejected out of the “ejection port” of their actions.

4.2.1 BLOWBACK SELF-LOADING PISTOL ACTIONS

Low energy cartridges from .22LR to .380 caliber are typically chambered in *STRAIGHT BLOWBACK* action, self-loading pistols, such as James Bond’s old “Walther PPK“. In order to cycle such an action using blank ammunition, in the absence of the recoil produced by the projectile’s mass, the *BARREL* is typically fitted with an internal *GAS REDUCER*. Its function is to reduce the amount of pressure escaping the *BARREL*, thereby trapping a portion of the high combustion pressure behind the *GAS REDUCER*. With the Recoil Spring trimmed to a lesser resistance, and the high back pressure created in the *BARREL* behind the *GAS REDUCER*, there are sufficient expanding gases to cycle the action, when the *GAS REDUCER* and the *RECOIL SPRING* are tuned to the correct balance between gas pressure and spring resistance - the action cycles properly.

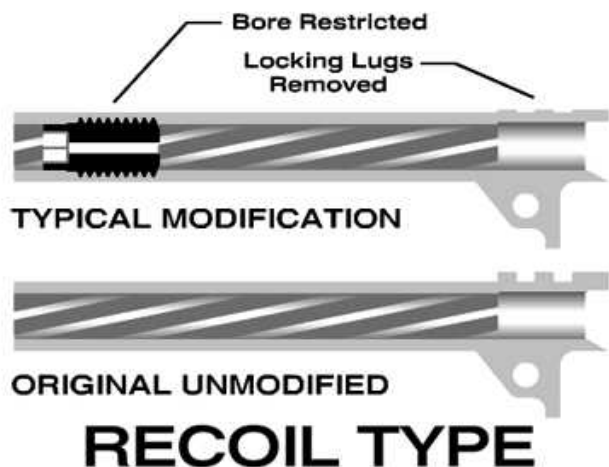
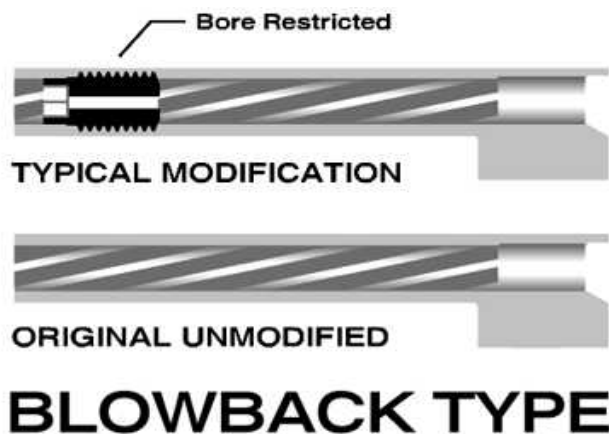
4.2.2 RECOIL OPERATED SELF-LOADING PISTOL ACTIONS

Medium energy cartridges from 9mm to .45ACP caliber are typically chambered in *LOCKED BREECH* action, self-loading pistols, such as the .45 Automatic or the 9mm Hi-Power. It operates on the identical principal, however, due to the higher pressures of medium energy cartridges, the blowback energies must be retarded before the *BREECH* opens. That is accomplished by locking the *BARREL CHAMBER* to the *SLIDE*. In order to cycle such an action using blank ammunition, in the absence of the recoil produced by the projectile’s mass, the identical means of plugging the *BARREL* with a *GAS REDUCER* is supplemented by the removal of the locking surfaces between the *BARREL CHAMBER* and the *SLIDE*, in order to balance gas pressure and spring resistance, to cycle the action properly.

COURSE MATERIAL: MOVIE GUN SAFETY

4.2.3 TYPICAL BLANK FIRING PISTOL MODIFICATIONS

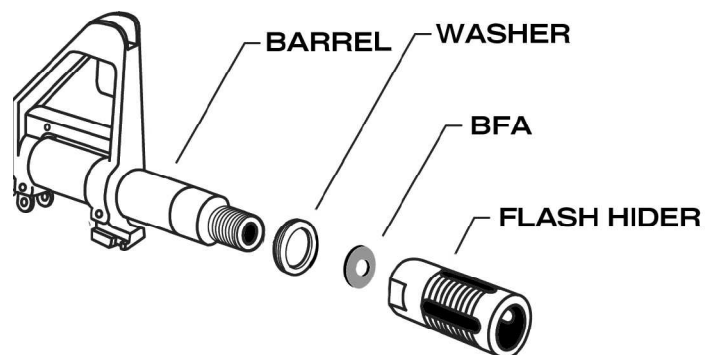
Typically, a *GAS REDUCER* is fabricated from a hex-head machine bolt, with an aperture, that is to say, a “hole” bored through its center axis. That diameter of the aperture regulates the gas pressure. The inside of the *BARREL* is typically threaded to correspond to the threading of the *GAS REDUCER*, that is screwed into place, then brazed so it cannot back-out of the *BARREL*. Recoil operated self-loading actions used with medium energy cartridges have locking lugs, which lock the (linked or cammed) “*TILTING*” *BARREL* to the slide to delay the blowback until the pressure drops to a safe level before the breech can open and cycle. Blowback self loading actions do not typically have a locked breech, so they have no locking lugs on their “*FIXED BARREL*”. ALWAYS inspect for a loose *GAS REDUCER* as well as blockages in its aperture. Blocked or loose *GAS REDUCERS* can cause serious or fatal injuries.



COURSE MATERIAL: MOVIE GUN SAFETY

4.2.4 GAS OPERATED SELF-LOADING RIFLE ACTIONS

High energy cartridges from 5.56mm to 7.62mm and higher energy calibers are typically chambered in *GAS OPERATED* action, self-loading rifles, such as the M-16 rifle and M4 carbine, which offer “selective-fire” capability, that is to say, semi-automatic and full automatic firing modes, found only in the military and Class III models (BATF registered machineguns). In order to cycle a *GAS OPERATED* action using blank ammunition, in the absence of the projectile trapping gases behind it as it travels out of the *BARREL* to port sufficient gas pressure into the *GAS OPERATED* action that cycles the firearm, the *BARREL* is typically fitted with a discrete *GAS REDUCER*. It is typically hidden, or sandwiched, between the *MUZZLE* and the screw-on *FLASH HIDER*. Its function is to reduce the amount of free, unrestricted pressure escaping the *BARREL*, thereby trapping a portion of the high pressure gases behind the *GAS REDUCER* in order to port sufficient gas pressure into the *GAS OPERATED* action, which cycles the firearm. The *GAS REDUCER* is often referred to as a “Blank Firing Adapter” (BFA). The AK-47, SKS, and similar rifles all have *FLASH HIDERS* that can accommodate a BFA, unless the rifle was manufactured between 1993 and 2002, during the “Assault Weapon Ban of 1993” when *FLASH HIDERS* were once outlawed. Those “Post-Ban” rifles require the additional modification of having the *BARREL* end, at the *MUZZLE*, threaded to accept a *FLASH HIDER*. Because firearm laws change often, please consult a qualified gunsmith for current regulations before modifying any firearm. Avoid blank adapted firearms with their *GAS REDUCERS* merely welded or brazed into the *BARREL* because such a *GAS REDUCER* may eventually crack and break off, becoming a deadly projectile itself, propelled by the discharge of the blank cartridge.



BLANK FIRING ADAPTER (BFA)

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5.0 FIREARM INSPECTION

ALWAYS ASSUME EVERY FIREARM IS LOADED. Never assume a firearm is unloaded until you have pointed it in a safe direction, opened the action, just as if it were loaded, to confirm that it is indeed unloaded. Taking a firearm into hand is when Producers, Directors, Assistant Directors, Weapon Handlers and Performers are exposed to their most likely moment of being injured by an accidental discharge. Any time anyone's finger touches the trigger of a firearm, *EXPECT IT TO DISCHARGE.* Going "Bang!" is what firearms are designed to do when you apply finger pressure on the trigger. Train yourself *NEVER* to touch the trigger unless you intend to discharge the firearm. "Itchy trigger fingers" cause *EVERY* accidental discharge. *ALWAYS* keep your trigger finger *OFF* the trigger, keeping that finger "parked" over the outside of the trigger guard at all times. Because the trigger finger naturally and ergonomically gravitates onto the trigger, this simple discipline *MUST* be mastered into a *more-than-natural* habit to prevent serious injuries to yourself and everyone else around you. Only with your finger *OFF* the trigger, can you then unload and inspect a firearm responsibly and safely. As simple as that may sound, nearly everyone whoever accidentally shot themselves or others while "cleaning" their gun, broke the discipline of keeping their trigger finger off the trigger. All it takes is a moment of thoughtlessness to cause a disaster.

5.1 GENERAL CONDITION

With your finger *OFF* the trigger, open the action and confirm that there are no cartridges present in the action, firing chamber, cylinder, or magazine. If you discover any cartridges, keep it pointed in a safe direction and have the Weapon Handler unload the firearm for you. If the firearm is unloaded, examine the firearm for any damage. The most important question you must ask the Weapon Handler is always, "*Does this firearm have any problems?*" Other important questions are, "*Is this your firearm, or is it a rental you've never fired before?*" and "*How many times have you used this firearm with blanks?*" Ask because the firearm may have never fired blanks before, so it might not work as expected. It's always better to discover this kind of information before you get on set to film. Ideally, you will get a chance to first inspect any firearms before filming, when you have an opportunity to "test-fire" the firearms with its corresponding blank ammunition. Problems may be discovered in the function of the firearm during a test-firing session that may have ruined a filming day or injured someone. A successful test-firing also allows you and everyone else handling any firearms to become familiar with its safe operation and firing characteristics long before the cameras roll. Test-fire all blank ammunition types into a paper target in front of a backstop, at the ranges you expect to discharge "blanks" toward any Performers, to confirm that no excess wadding or other dangerous debris is being discharged which might strike anyone.

COURSE MATERIAL: MOVIE GUN SAFETY

5.2 BARREL OBSTRUCTIONS

Understanding how the different action types function will help you know what you are looking at when you inspect a firearm for broken, or missing parts, and obstructions in the bore of the barrel. It is always necessary to wear eye protection when examining the bore of a barrel.

5.2.1 NON-ADAPTED BARREL INSPECTION

With the firearm *UNLOADED*, and your finger *OFF* the trigger, examine the bore of the barrel for any obstructions. In non-adapted firearms, such as a revolver or a pump action shotgun, you can see if anything is obstructing the bore of the barrel, or the chamber(s) using a flashlight or "Borelight". Obstructions in the bore of the barrel represent lethal projectiles, the moment a blank cartridge is discharged behind it and propels it from the barrel with lethal force. Immediately remove any firearm with an obstruction in the bore from the workplace. An obstruction in the bore of a revolver is exactly what killed Star *Brandon Lee* on the set of "*The Crow*". It was an accidental death that could have easily been avoided - simply by checking for any obstructions. NEVER rush through any dangerous activity, whether it be gun fire, stunts or pyrotechnics. TAKE the time to check everything.

5.2.2 BLANK-FIRE ADAPTED BARREL INSPECTION

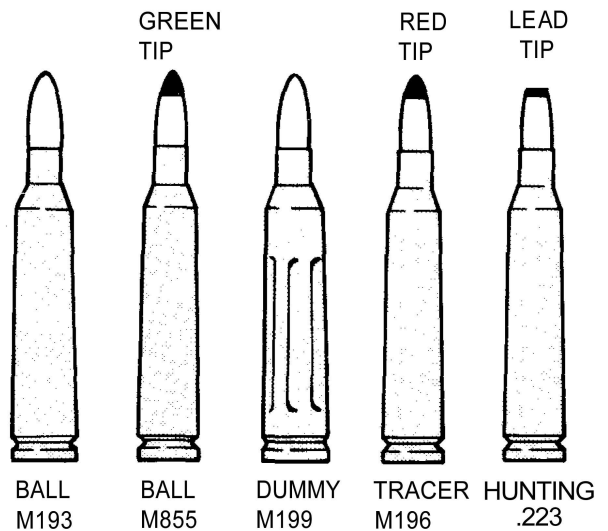
In blank fire adapted firearms, such as semi-automatic and automatic firearms, the bore of the barrel has been reduced by a gas reducer, often making it impossible to perform a visual inspection. You will need to use another means of determining that the bore of a barrel is free of obstructions. That other means is by using a cleaning rod. Before every production, it is necessary for the Weapon Handler to remove and inspect the condition of the gas reducer, that is to say, the BFA, as well as check the bore of the barrel for any obstructions. If a BFA is fouled, it should be cleaned to restore its aperture to the original diameter, to prevent stoppages. If the BFA is deformed, cracked or corroded, it should immediately be replaced. At that time, with the BFA reinstalled, the Weapon Handler must then take a cleaning rod and drop it down the bore of the barrel, from the chamber toward the muzzle until it hits the inner face of the BFA. The cleaning rod is then to be marked, exactly like an oil "dipstick" in a car engine, identifying the exact depth the cleaning rod should go before stopping at the BFA. Before filming, the bore should be checked for obstructions with the marked cleaning rod, to ensure the bore is free of obstructions. This is why firearms with a welded BFA should be avoided.

COURSE MATERIAL: MOVIE GUN SAFETY

6.0 CARTRIDGE IDENTIFICATION

Being able to recognize the difference between a projectile cartridge and a blank cartridge is a matter of life and death. Most people simply refer to cartridges as “bullets”, however, the bullet is only the projectile portion of the cartridge. Projectiles are the principally lethal aspect of discharging a firearm. That makes it paramount to **KEEP ALL CARTRIDGES WITH A PROJECTILE AS FAR AWAY FROM A MOTION PICTURE PRODUCTION AS POSSIBLE**. Below, are some of the common types of projectile cartridges that should **NEVER** be anywhere near any production - except for the manufactured “Dummy” cartridge.

If you are a Performer discharging a blank-firing firearm, inspect the blank cartridges you will be discharging. Especially if you are the Performer who will have a blank-firing firearm discharged in your direction, inspect the blank cartridges. If you are the Director, the responsible individual, inspect the blank cartridges. If you are the Producer, the one who will be held civilly and criminally liable, inspect the blank cartridges.



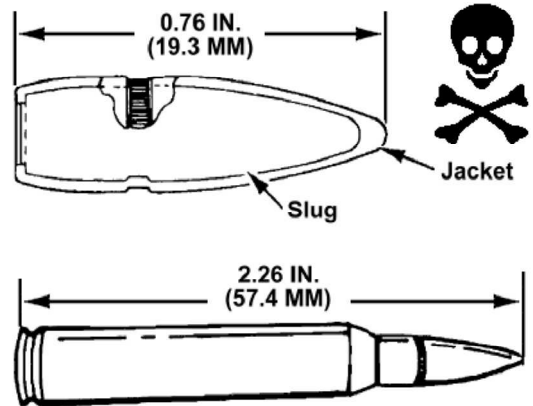
5.56mm AMMUNITION TYPES

Learn to recognize and intercept any potential for a fatality **BEFORE** it happens by inspecting the blank cartridges to make absolutely sure they do not contain a projectile of any kind. Insist on inspecting all blank cartridges before they are discharged to make sure no projectile cartridges are being loaded into any firearm. It is everyone’s responsibility to know what is being loaded into a firearm on a motion picture production. **NEVER** allow anyone to bring any projectile cartridges into the workplace (notwithstanding Security Officers carrying firearms of **DISSIMILAR CALIBERS**. See Section 9.0). **BE AWARE** of the difference in discharge energy between low pressure “**Training Blanks**” and high pressure “**Rifle Grenade Launching Blanks**”.

COURSE MATERIAL: MOVIE GUN SAFETY

6.1 PROJECTILE CARTRIDGES

Typically, projectiles consist of a copper jacket, plated over a lead slug, or core, with a conical, or pointed shape at the tip. Sometimes the lead core is exposed at the tip to produce expanding hunting cartridges. The copper jacketed projectile is always crimped to the mouth of a brass cartridge casing, making it relatively easy to identify.

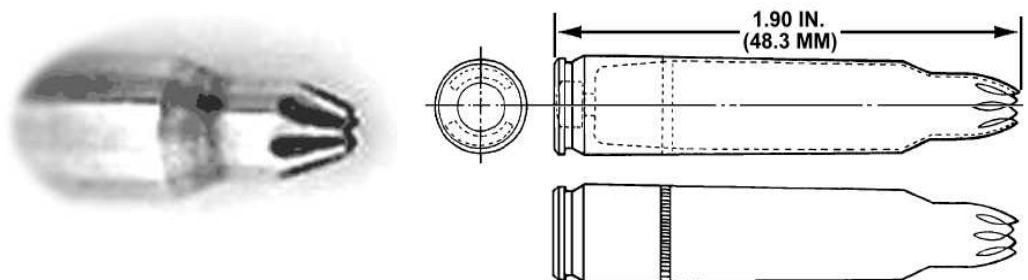


6.2 BLANK CARTRIDGES

Typically, blank cartridges consist of only the brass casing, powder charge and a primer. Open casing types of blanks typically use a "wad" of some quickly combustible material to hold in the powder charge that, ideally, is supposed to vaporize upon discharge - however, varying amounts of particles are *ALWAYS* discharged from a blank cartridge.

6.2.1 CONICAL CRIMPED-NOSE CASING

To properly "feed" in repeating action firearms, blank cartridges still need to travel from the magazine, into the breech, passing up the feed ramp and into the chamber. To accomplish that, the mouth of the brass casing of a blank cartridge is elongated and folded in a radial pattern called a "Rosette" or "Star" crimp (illustrated below on the left). Upon discharge, the powder charge ignites and the pressure blows open the crimp so the pressure, bang and flash can escape.



The Rosette or Star crimped-nose blank is used for all repeating action firearms, including bolt, lever, semi-automatic and full automatic action rifles and self-loading action pistols. It is the conical shape of the cartridge nose that makes it properly feed.

COURSE MATERIAL: MOVIE GUN SAFETY

6.2.2 OPEN BRASS CASING

For non-adapted firearms like single-shot, derringers and revolvers, the blank cartridge is not fed by a magazine; they are fed into their chambers by hand. That means the mouth of the brass casing does not need to be crimped into a conical shape.

Typically, standard brass casings are used without a projectile, but with the flash hole in the primer pocket opened up to a larger diameter. The powder is typically held inside the brass casing by means of a wad of sealing material that,



ideally, disintegrates upon discharge. In practice, the wad does not completely burn and disintegrate with particles discharged from the firearm.

6.2.3 SHOTGUN SHELL CASING

Blank shotgun cartridges are indistinguishable from shotgun cartridges that discharge projectiles. You **CANNOT** accept the validity of the outer markings on the shell because of the potential that the shells may be reloaded. Often, the difference in weight, less the lead shot pellets, may appear to be a good indicator, but **ALWAYS** test-fire blanks for shotguns because you need to be 100% sure, not merely “almost” sure. Shotgun projectiles can be devastating.



6.2.4 PLUG FIRE CARTRIDGE (PFC) BLANKS

These blanks are used in what are known as “PFC ModelGuns” made by Marushin in Japan, rather than in actual firearms. They produce far lower pressures than conventional blanks. A detonator enters the front of the cartridge to discharge it.

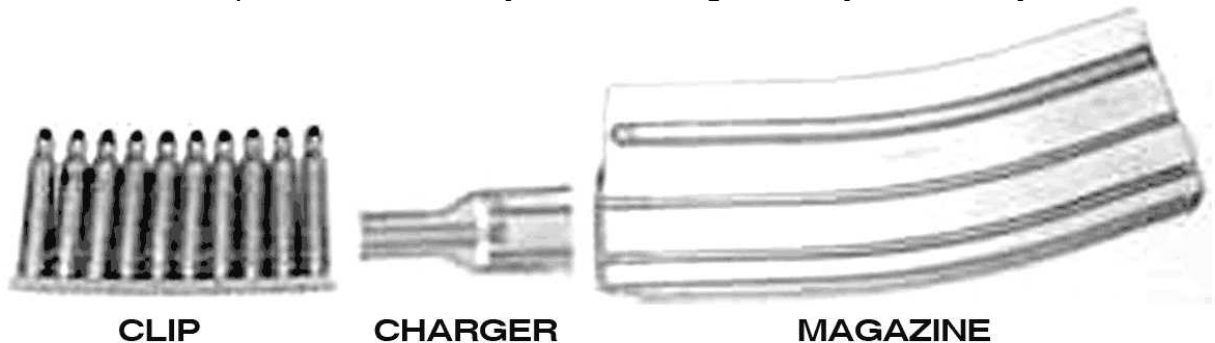


The PFC blank has a valve inside where a “cap” is placed before screwing the brass casing together. They take care and time to clean and reload but have a lower injury potential.

COURSE MATERIAL: MOVIE GUN SAFETY

6.3 CLIPS & MAGAZINES

Many people erroneously call magazines “clips” as an interchangeable term that can sometimes cause confusion. The difference between a “clip” and a “magazine” is simple: A clip loads cartridges into a magazine; a magazine loads cartridges into the breech of a firearm. With the exception of the “Broomhandle” Mauser and a few other antiques, modern pistols generally do not use “clips”, they use magazines. It’s important to understand the benefit of working with clips on a motion picture production: (1) Clips expedite the loading of magazines between takes, reducing the time it takes to reload a magazine from minutes to moments. (2) Clips can be loaded, long in advance of filming, while leaving the cartridges exposed and visible for inspection immediately before filming for everyone’s safety.



A “**CLIP**” is a metal or plastic device that engages the rims of the individual cartridges in order to fasten them together for the purpose of quickly loading a magazine.

A “**CHARGER**” is a metal or plastic device that is slipped over the mouth of a magazine for the purpose of aligning a clip in relation to the magazine for rapid insertion of all the cartridges fastened to the clip.

A “**MAGAZINE**” is a metal or plastic device that feeds cartridges into the breech of a rifle or shotgun, typically by means of spring tension.

The *BOX MAGAZINE* system illustrated above is used as follows: a **CHARGER** is fitted to the mouth of a **MAGAZINE**. Then a **CLIP** is inserted into the guide of the **CHARGER**. Last, hand pressure on the row of cartridges forces them off the end of the **CLIP**, aligned and guided by the **CHARGER**, and loaded into the **MAGAZINE**. The **MAGAZINE** can then be locked into a firearm for discharging. Bolt Action Rifles, such as a “Springfield 03” or “Mauser 98” Bolt Action, use **CLIPS** to load cartridges directly into a *FIXED* (non-detachable) and internal **MAGAZINE**, without the need for a **CHARGER**.

COURSE MATERIAL: MOVIE GUN SAFETY

7.0 DISCHARGING BLANKS

Whereas projectile cartridges discharge a lethal bullet projectile, blank cartridges have no lethal projectile. However, blank cartridges do produce potentially lethal high pressure gases and often project burning debris from the wad or sealing material, which can cause severe injury and even death.

7.1 SAFE DISTANCES

There are *NO* safe distances in which to discharge a blank cartridge directly at a person. The point of aim is *ALWAYS* off to the side of a target, with the aim of the firearm cheated by the camera angle to merely *APPEAR* as if the weapon is aimed at another Performer. If a BFA fails, metal fragments can be propelled from the barrel with lethal force in unpredictable trajectories. The only "safe distance" is measured at an angle from the discharge - *NEVER* directly in front of it.

7.2 UNLOADED FIREARMS

When it becomes necessary to point an "unloaded" firearm directly at a Performer for dramatic purposes, *NEVER ASSUME THE FIREARM IS EMPTY*. The action stops until a safety check is performed because any mistake may cost a Performer their life. *ALWAYS* open the action and inspect and clear it of any cartridges in the chamber(s) and in the magazine. Make absolutely sure the firearm is completely empty of cartridges. *ALWAYS* show the Performer operating the firearm that it is unloaded. *ALWAYS*, and *ESPECIALLY*, show the Performer who will have the firearm pointed at their body that the firearm is indeed unloaded. The Assistant Director must also verify that any firearm to be pointed at any Performer is completely unloaded before allowing the firearm to be pointed at any Performer and allow the action to film.

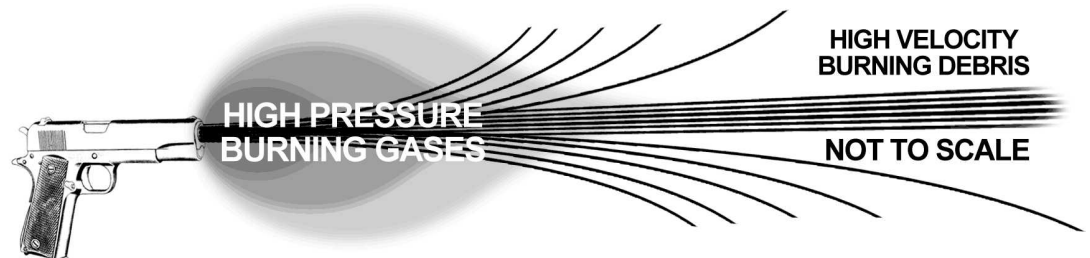
7.3 DEBRIS & HOT GASES

Typically, handgun cartridges produce pressures on the scale of tens of thousands of pounds per square inch upon discharge. Rifles and shotguns produce double and triple handgun pressures. Without a projectile, even using a blank cartridge, the pressures are still high enough to blow a large hole through an aluminum soft drink can. A human skull can be shattered and the brain tissues destroyed by a contact discharge, causing *DEATH*. In 1984, Actor Jon Eric Hexum, the Star of the TV series, "Cover Up" lost his life right on set by the debris and hot gases from a contact discharge from an open brass casing blank cartridge, sealed with a wad from a .44 caliber revolver. Even at distance, burning debris is propelled out of the barrel with great force and can cause serious injuries. Blank cartridges must *NEVER* be discharged directly at any person or any living thing, for any reason.

COURSE MATERIAL: MOVIE GUN SAFETY

7.4 DISCHARGE PATTERNS

When a blank cartridge is discharged, debris and hot gases are expelled with great force in a discharge pattern. The powder load of the blank cartridge and the length of the barrel determine the shape of the discharge pattern. Anything within the discharge pattern will be affected to degrees varying from death to a mild sting, depending upon their position within the discharge pattern. The length of the barrel contributes greatly to the overall diameter of the discharge pattern. A blank fire adapted pistol or revolver often creates a greater diameter discharge pattern than a blank fire adapted rifle because the proximity of the combusting powders to the muzzle is so close. NEVER underestimate the discharge pattern of even a small handgun. Shotgun blanks can be loaded to produce extreme muzzle flash along with extreme concussion. Sometimes, blank cartridges for rifles are potently loaded to produce spectacular muzzle flash, so never assume anything until you have test fired all blank firing firearms with their corresponding blank ammunition. *ALL DISCHARGE PATTERNS VARY IN SIZE AND SHAPE BETWEEN BLANK LOADS AND FIREARM COMBINATIONS.*

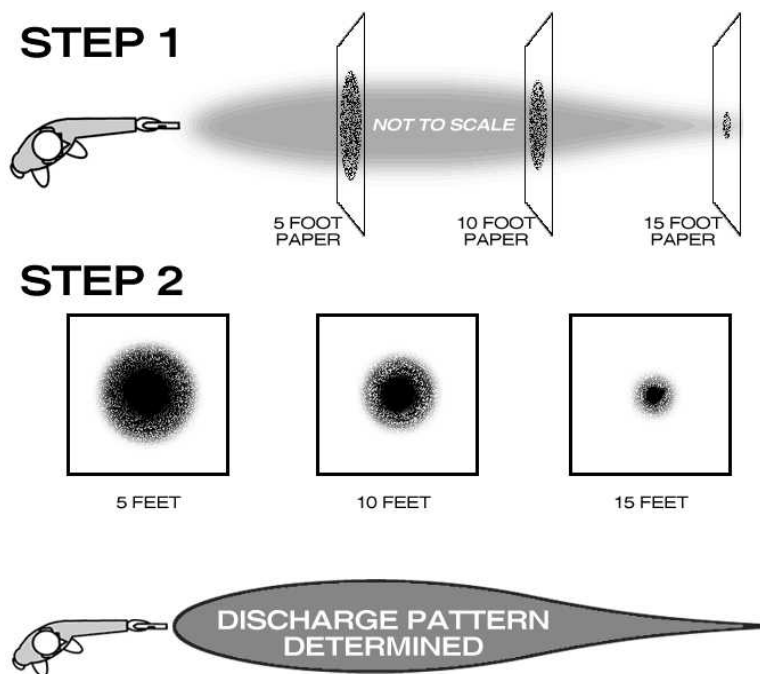


Typically, a discharge pattern is made up of two elements: High pressure burning gases and high velocity burning debris. Both elements are dangerous. Whereas the illustration above is not to scale, it illustrates the sharp drop-off of high pressure burning gases in an unconfined area, and the continuing trajectory of high velocity burning debris, which tends to “fan-out” and disburse with distance. Burning particles tend to rise with heat while the unburned particles tend to fly straight for some distance before falling to the ground or spinning off with unpredictable trajectories. The greater the dispersal of burning particles, the more dangerous they may be to people in the peripheral area. In addition to the discharge pattern, self-loading actions, especially automatic and semi-automatic action firearms, forcibly ejected hot brass cartridge casings fly out of the “ejection port” of their actions. “Hot brass” can strike and injure the operator in the face and eyes, or enter the clothing at the collar, which may cause serious burns to their skin or strike, injure and burn others in the path of the ejected cartridge casings. EVERYONE MUST WEAR EYE PROTECTION.

COURSE MATERIAL: MOVIE GUN SAFETY

7.5 DISCHARGE PATTERN TEST

To keep all of your people safe, you must first determine the discharge pattern of the blank firing firearm and blank ammunition combination that you will be discharging on-camera. To determine the discharge pattern of the blank firing firearm that you will be discharging on-camera, there are two steps illustrated below. **STEP 1:** Clear the set of people, or go to a safe area, then fire a test discharge into a large, white paper tissue suspended by a stand (*NO ONE* is to hold the paper) at a distance of five feet from the muzzle of the firearm to be discharged. *DO NOT* allow anyone in front of the discharging firearm during this test! Note how severely the tissue paper is affected. Note how large of a diameter was affected by the discharge. Replace the tissue paper and back the stand suspending it another five feet and repeat the test. Replace the tissue paper and back the stand suspending the tissue paper another five feet and repeat the test. **STEP 2:** Examine the three papers, peppered with a pattern, at five foot intervals out to fifteen feet, so you may extrapolate the size and shape of the discharge pattern from which to determine safe peripheral distance, 15 or more degrees *AWAY* from the peripheral edges of the discharge pattern, so everyone is well away from the path the high temperature gases, high velocity debris and especially out of the path of the BFA which may be ejected with lethal force, should it fail.

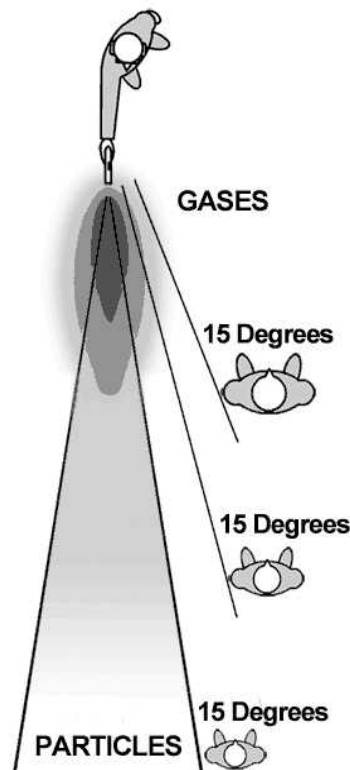


These three distances are *VARIABLE* and *NOT ABSOLUTE*. Testing distances must be set according to the Performers true distances from the firearm and blank cartridge combination to be discharged on set.

COURSE MATERIAL: MOVIE GUN SAFETY

7.6 THE 15+ DEGREE RULE

The closer a blank discharge is to anyone, the greater the degree they must be positioned *AWAY* from the discharge of that firearm. The safe peripheral distance for a discharge is measured in distance and degrees *AWAY* from anyone in front of the discharging firearm. A discharge pattern test will determine the discharge pattern size and shape. With that information, you will be able to determine how to set up the action, and also know where on set *NOT* to allow Performers or Crew Members to be present while discharging blank ammunition.



The illustration to the left is *NOT* to scale. Taking into account the information gleaned from the discharge pattern test, understand that anyone in front of the discharge *MUST* be 15 degrees off away from the outermost peripheral edge of the discharge pattern - *NOT* merely off axis of the point of aim. If your discharge pattern was 3 feet in diameter at a distance of 5 feet forward of the muzzle, place any Performer who may be 10 feet away, 15 degrees *AWAY* from the outer edge of that 3 foot diameter discharge pattern in order to keep them out of the path of high temperature gases and high velocity debris. If your discharge pattern test was 1 foot in diameter at a distance of 10 feet forward of the muzzle, place any Performer who may be 20 feet away, 15 degrees *AWAY* from the outer edge of that 1 foot diameter discharge pattern. Regardless of how great the distance, no one should ever be any less than 15 degrees off axis of the point of aim

in case the BFA or any other part breaks free and is ejected down range with lethal force. Despite these precautions, it is *ALWAYS* possible that flat shaped particles may become aerodynamically unstable and fly in an unexpected direction, like a wayward Frisbee, a particle can spin off unpredictably and strike someone with penetrating force. Sometimes, a narrative story requires either a shooter or the Performer being "hit" to participate in a discharge without eye and ear protection. Because it is possible to have debris and gases rupture soft tissues such as eyeballs *NO ONE SHOULD POTENTIALLY BE REQUIRED TO SACRIFICE THEIR VISION FOR THE SAKE OF ANY MOVIE. EVERYONE ON SET MUST WEAR EYE AND EAR PROTECTION WHEN DISCHARGING BLANK AMMUNITION.*

COURSE MATERIAL: MOVIE GUN SAFETY

7.7 TYPICAL THUMB INJURY

Always take care discharging self-loading or “automatic” pistols. The *slide*, or in some pistols the *bolt*, travel rearward under powerful recoil force to cycle the action. Anything in its path will be struck with great force, making it important to *never place any part of your body behind the slide*. The two photos below illustrate how *NOT* to hold a pistol - violating this safety caution may result in tearing off your thumb at the knuckle!

OVERLAPPED THUMB BEHIND SLIDE



THUMB SHREADED ON RECOIL



PROPER GRIP & THUMB OVERLAP



ALWAYS keep clear of the rear of the slide. **NEVER** wrap your thumb *behind* it. The photo above illustrates the proper position of the overlapped thumb.

COURSE MATERIAL: MOVIE GUN SAFETY

8.0 RESPONSIBILITIES

All of the information taught in this course builds into a solid foundation of understanding that can now begin to be fully applied with the first step of implementing safety protocols and procedures for the discharge of blank firing firearms on a motion picture production. That comes with everyone involved understanding what their individual responsibilities are on a motion picture set. Whatever importance is placed on professionalism within a production stands or falls primarily on the professionalism of those running the show. The Producers and Director are always leading by *EXAMPLE*. Lead well.

8.1 THE DIRECTOR

Establishing and maintaining safety procedures starts from the top down because the Performers and Crew Members are always looking at those in charge for their cue on the level of professionalism the production requires. Although this is not a leadership skills seminar, leadership is a component of implementing and maintaining safety procedures. The only way to “control” the attitudes and actions of those under your charge is to control your own attitudes and actions, that is to say, you can only control yourself and lead by that example. When you delegate authority over the firearms to your Assistant Director, make sure they know what to look for when performing an inspection. If they do not, show them yourself. Or, to be extra confident in their abilities, have them take this safety course before production starts. You should attend all discharge pattern tests performed by the Weapon Handler so you understand exactly what you are asking of your Performers when you put them anywhere in front of a blank fire discharge. That way, you will have a much better idea of how close is too close. The Performers are putting their lives into your hands and into the hands of those under you, so pay very close attention to the discharge pattern tests. Bring your Assistant Director, so they also understand how close is too close, as well. Become familiar with all blank cartridges to be used in which blank firing firearms and have them test fired so there are no surprises, tragic or otherwise, when filming. Watch for any problematic firearms that may stop production and consider replacing them with alternatives whenever possible. This is also a good opportunity to see your Armorer in action and also to judge their level of expertise, manner and safety discipline. During filming, it is common for the Director to depend on the expertise and judgment of their Assistant Director for the “go-ahead” to film a scene with a firearm in it, both during blank discharges as well as when the “unloaded” firearm is pointed toward another Performer. That makes it essential for the Assistant Director to *ALWAYS* understand and carry out their responsibilities without any carelessness whatsoever.

COURSE MATERIAL: MOVIE GUN SAFETY

8.2 THE ASSISTANT DIRECTOR

Even when there is a failure from the top to set a high level of professionalism, a sharp Assistant Director can always salvage an otherwise dangerous work situation, if they can demonstrate a high level of professionalism on their own - despite the apparent tolerance for unprofessional behavior from the management. It's a fact that professionalism reduces workplace injuries when the standard has been set high. Typically, it's the Assistant Director, the A.D. (not to be confused with the firearms term "Accidental Discharge") who gives the "go-ahead" to the Director for the discharge of blanks. That authority is delegated by the Director. The Performers and Crew Members will actually feel a great deal of confidence in the A.D. when they know their safety is being monitored and maintained at all times, and the A.D. really knows what they are doing. Think of yourself as the last "layer" of safety. Think in terms of redundancy in safety. Never take anyone's word that a firearm is unloaded; when an unloaded firearm is to be pointed at a Performer, have the Weapon Handler show you that it is indeed unloaded and inspect it yourself, then *ALWAYS* show the Performer it is to be pointed at; they *ALWAYS* need to see that the firearm is truly unloaded. You may be the only one to visually confirm the "it's unloaded" assumption by "take nine" of a scene when everyone is getting run-down and tired and the Performer is consumed with getting the next "take" right. Know what you are looking for when you inspect a blank firing firearm. Check the tightness of the flash hider to make sure it has not backed off its threading so it (and the BFA) do not fly off during a discharge and strike someone with lethal force. Check that all blank cartridges contain no projectiles, examine each and every cartridge. Ask what kind of blank load is to be fired and advise the sound department. Make sure everyone has eye and ear protection. It is the Assistant Director's responsibility to call out to everyone in the workplace that a firearm is loaded by calling, "*Armed!*" or "*Hot!*", "*Live Fire!*" or a commonly understood term that lets everyone know that the firearms are indeed loaded. The Assistant Director is responsible for maintaining blank firing firearms safety procedures throughout production, despite the Director or any Producers who may demand that anyone's safety be compromised for the sake of expediency. Safety concerns overrule everyone's opinion. If there is no Assistant Director on set, or if firearms are being used on a subsequent filming unit without an Assistant Director, then all of these responsibilities fall onto the shoulders of the Unit Director. Typically, the Assistant Director works very closely with the Armorer and Weapon Handlers to ensure that safety procedures are followed while accomplishing the dramatic requirements of the scene being filmed.

COURSE MATERIAL: MOVIE GUN SAFETY

8.3 THE ARMORER & WEAPON HANDLERS

At no point should this course be confused with anything that approaches the complexities of Armorer training. This is a description of the responsibilities of the Armorer. A motion picture Armorer may work alone or supervise one or more Weapon Handlers working under them, depending on how many specialists are needed to safely control every firearm on stage at a given time. The Armorer typically works under the Property Master in the Props Department. However, safety demands require the Armorer to report directly to the Assistant Director or Director, and the Armorer works directly with any Cast Members who will be required to handle or discharge any blank firing firearms *AND* handle any replica firearms. The Armorer *ALWAYS* needs to be fully aware of every type of real or “prop” firearm so there are no “loose” firearms, real or otherwise, anywhere on a filming stage. Motion picture Armorers are responsible for maintaining everyone’s safety on stage and maintain the Performers ability to accomplish the dramatic objectives set by the Director that involve the use of weapons, which may not always be limited to blank firing firearms alone. It is the Armorer’s responsibility to perform all function checks and discharge pattern tests with every firearm and blank ammunition combination expected to be used in the production. Whereas the Performers are not expected to be firearm experts, nor should it become their responsibility to maintain or troubleshoot any firearms, it is the Armorer’s responsibility to either supervise the Weapon Handlers, or to directly perform the loading, unloading, troubleshooting and cleaning of all blank firing firearms used in the production. The Armorer may also act as a choreographer and “realism” consultant whenever required by the Director. It is the Armorer’s immediate responsibility to maintain control of all firearms in the production, keep them secured whenever they are not being employed on stage, to distribute them, to load them, to clear any stoppages, to unload them, to safety check them, and to collect them immediately following the filming of a scene. It is also the Armorer’s responsibility, depending on the legal requirements of different jurisdictions, to make sure that all of their permits, licenses and certifications are in compliance with all laws which regulate the possession and employment of firearms because the law makes no distinction whatsoever between firearms and blank firing firearms. It is also the Armorer’s responsibility to ensure that all Performers who will be handling or discharging blank firing firearms are adequately trained to do so safely, without compromising the safety of those around them. It is also the Armorer’s responsibility to notify the Assistant Director or Director if they have reason to believe that any Performer is not physically or mentally prepared to safely handle or operate a firearm.

COURSE MATERIAL: MOVIE GUN SAFETY

8.4 THE PERFORMER / WEAPON OPERATOR

When a Performer is required to handle a replica or blank firing firearm, they take on the added responsibility and liability of being a *weapon operator*, in addition to the performance of their role on stage. This often creates an attention conflict where firearm safety can quickly become an afterthought which compromises their safety, as well as the safety of those around them. When working with an Armorer or Weapon Handler, **NEVER** dismiss their instructions because you *think* you already know what you are doing, even if you do. That sets a bad example for the other Performers who may follow that example, not to appear as a neophyte, and they may, as a result, injure **YOU**. It is the Performer's responsibility to **NEVER** handle or operate any replica or blank firing firearm when intoxicated, "hung-over", or when ill, or impaired by any medication or substance which may affect ability or judgment. As the Performer directly involved with the use of firearms on stage, **YOU** are the most likely to become injured if safety is ever compromised at any point. **NEVER** handle replica or blank firing firearms when there is no filming, have the Armorer or Weapon Handler recover it immediately after filming for inspection and maintenance. Consider the death of Brandon Lee after an untrained person pulled the trigger on an improvised "dummy" cartridge that still had a live primer in it; the primer "popped" with enough force to lodge the projectile in the barrel of that revolver. The person who "played" with that revolver put it down without notifying the Armorer. Later, when a blank was discharged behind the projectile by another Performer at Brandon Lee, it was projected out of the barrel with lethal force and cost a well-trained, rising Star his life. This is why it is the Performer's prerogative to insist on maintaining the 15+ Degree Rule. **NEVER ALLOW ANYONE** to discharge a blank cartridge **DIRECTLY AT YOU**. Regardless of all the safety precautions on stage, remember that you, as a Performer should take complete responsibility for your own safety and **ALWAYS** consider yourself "*on your own*" because any lapse in supervision, communication or good judgment may cause you any degree of injury up to and including death. Observe the other Performers handling firearms, monitoring anyone who is not behaving responsibly or caught up in the excitement, such as any "*jokesters*" or the over-excited who may abruptly decide to act foolishly with a firearm. That is why it is every Performers responsibility to **RETURN** their firearm to the Armorer or Weapon Handler immediately after filming. It is also the Performer's responsibility to **NEVER** leave any firearm unattended, for any reason. It is the Performer's responsibility to **ALWAYS** follow the instructions of the Armorer or Weapon Handler. Performers should **NEVER** handle or discharge any firearm in the absence of a qualified Armorer or Weapon Handler.

COURSE MATERIAL: MOVIE GUN SAFETY

9.0 SAFETY PROTOCOLS

The following protocols are to be maintained without deviation:

TRAINING DAY: Before ever walking onto a stage or filming location, everyone involved in discharging blank firing firearms need to be familiarized and trained to handle and discharge firearms as a part of the pre-production process. At a controlled shooting range, the Director, Assistant Director and the Performers need to be individually evaluated, familiarized and trained with the types of firearms they will be expected to use in the production, under the supervision of a qualified instructor. If the Armorer does not provide that service, most shooting ranges have instructors available for hire at a reasonable cost. It's a relatively small investment that pays off during filming with not only added realism to performances but a better appreciation for the need to maintain good safety habits.

SUPERVISION: *AT NO TIME* shall blank firing or real firearms be used on stage without the Armorer or Weapon Handler immediately supervising their use. This is the common denominator of *ALL* "blank fatalities" in the U.S.A.

DISCHARGE PROTECTION: Protecting the eyes and ears of Cast and Crew during any discharge is essential. No Performer shall have a discharge directed at them without wearing eye protection, unless special deflection techniques negate the potential of debris striking them. When the Camera is closely positioned anywhere except immediately behind a discharge, an impact resistant lexan or plexiglass shield shall be placed between the Camera Operator and the source of the discharge. If protective material is not possible, the Camera Operator shall wear a hard hat, heavy-duty eye protection and full hearing protection. The Camera lens should be fitted with an impact resistant filter to protect its optics. An ultraviolet (UV) filter is ideal.

ARMORER'S AREA: Whether the Armorer is set up at a fixed area on stage or a mobile cart on location, no one without supervision is to enter the immediate Armorer area where the firearms and ammunition are kept. No one is to smoke near the Armorer area, if bulk or loose gunpowder, black powder or other combustible agents are present. Firearms *MUST* be under the direct control of the Armorer and the Weapon Handlers *AT ALL TIMES*.

NO "PLAYING" ALLOWED: *NO ONE* shall "play" with any firearm, not even replica or "rubber guns". Besides the obvious dangers of "playing" with real firearms, "playing" with replicas and "rubber guns" creates the perception that the production is a dangerous work environment that reflects badly on those in charge. It may even cost the shutting down of a production, if a complaint is filed. Supervised rehearsals are necessary but horseplay invites problems.

COURSE MATERIAL: MOVIE GUN SAFETY

SPENT CASINGS: As a matter of habit, all spent and ejected cartridge casings are to be collected between each time the camera rolls between “takes”. Stepping on loose casings can cause Performers, Crew Members or the general public to slip and fall, causing serious injuries if left as a liability.

SET SECURITY: At times, Security Officers may be needed when filming. In remote and/or high crime areas, or when high profile Performers require their own personal security, it may become necessary to have “armed” Security Officers present. It is important whenever live, projectile ammunition is required, that it *ALWAYS* be of a *DISSIMILAR* caliber than the production firearms. Few firearms chambered for the .40S&W cartridge are blank-fire adapted, making them impossible to load into a 9mm blank fire adapted pistol, one of the most commonly adapted blank fire pistols in the industry. Consult the Armorer for any firearms in the production inventory that may be compatible with the ammunition calibers carried by armed Security Officers.

WEAPONS & AMMUNITION: No one besides the official Security Officers shall be allowed to bring a firearm on stage or location whenever operations include the discharge of blank firing firearms. Although concealed weapon permit holders have the legal right to be armed, *NEVER* should personal firearms be present or concealed on days when blank firing firearms are in use. Personal weapons should either be left at home or securely locked within their automobile. The Armorer is *NEVER* to provide a “gun check” service, *NEVER* allowing live ammunition anywhere near the blank ammunition inventory which could a catastrophic accident.

CALLING “CUT!”: *ANYONE* may call “cut!” at any time to halt the action, if a threat to anyone’s personal safety is discovered while the camera is rolling.

SECURING THE LOCATION: Whether you are filming on a stage or on location, exposed to the general public, the area needs to be secured so no unauthorized people enter while you are preparing or filming. That means posting “CLOSED SET” signs outside stages, or taping off an outdoor area with “CAUTION TAPE” with signs posted to alert any passers-by that filming is in progress and the discharge of blank weapons will be heard. Having Security Officers maintain a perimeter around your operations will help keep unauthorized persons away from potential injury as well as from the firearms.

CONTACTING POLICE:

It is *ALWAYS* necessary to contact Law Enforcement to advise them that weapons, including replicas will be displayed in public and advise them if there are any blank cartridges to be discharged before filming. Please check with your local Law Enforcement Agency for regulations and permits way in advance, during pre-production, *NOT* on the day you intend to film.

COURSE MATERIAL: MOVIE GUN SAFETY

9.1 THE SAFETY BRIEFING

Every day of operations should begin with a safety briefing with the safety procedures reiterated, especially for the benefit of any new members of the Cast or Crew, as well as reaffirm to the rest of the Cast and Crew that all safety procedures remain in full effect. This duty is typically performed by the Assistant Director, in conjunction with the Armorer to update everyone on stage with the happenings scheduled for the work day. Everyone should be made aware of all important information regarding any events that may be potentially hazardous - and what the safety procedures are when those events are taking place. This is *NOT* the time for safety training, that should have happened before filming. In addition to the filming schedule, an overview of each scheduled sequence must be provided to the Armorer, identifying which Performers shall be handling and/or discharging any firearms as well as a description of the dramatic goals of each sequence. It should be reiterated daily that ANYONE may call "cut!" to halt the action, if any threat to anyone's personal safety is discovered while the camera is rolling.

9.2 SAFETY PROCEDURES

Safety procedures follow a cycle of three stages: Before, During and After filming. Following fixed safety procedures builds redundant habits that help ensure the safety of everyone on stage, especially when working laborious hours and fatigue sets in, typically the time when the probability of an accident is greatest. Each action involving firearms to be filmed *MUST* be rehearsed with either a replica, rubber gun or, a *confirmed "unloaded" firearm with the Armorer present - BEFORE FILMING* to eliminate any confusion among the Performers.

- **SUICIDE SCENES** where a Performer discharges *ANY* type of firearm, "non-gun" or PFC gun pointed at their head, inside their mouth, or any contact discharge against vital spots of their body *WILL KILL THEM*.
- **POINT-BLANK SCENES** where a Performer contact discharges or otherwise discharges *ANY* type of firearm, "non-gun" or PFC gun in close proximity to the head of another Performer *WILL KILL THEM*.
- **CONFINED SPACE DISCHARGE SCENES** where a Performer discharges a high or full-power blank cartridge, from a large caliber weapon, such as a shotgun, directly into the passenger area of an automobile, or other confined space *WILL BURN THOSE PRESENT* and the resulting concussion may possibly defeat hearing and eye protection, possibly causing *PERMANENT INJURIES*.

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9.2.1 BEFORE FILMING

These are the safety procedures to be followed *BEFORE* filming (* Note the term “Armorer” shall also include Weapon Handlers):

- The Armorer must clear and check the firearm for the condition of the action and its lubricants for fouling, cleaning if necessary.
- The Armorer must check the bore for obstructions and check the condition and seating of the BFA.
- The Armorer must inspect every blank cartridge to be loaded.
- The Armorer must load each magazine with only inspected blank cartridges, that they shall personally load.
- Magazines shall be exclusively controlled by the Armorer so no ammunition ever goes into the firearm that has not been hand inspected and loaded directly by the Armorer.
- The Armorer shall confer with the Director to determine how best to achieve dramatic goals within safety margins.
- The Armorer shall load all firearms prior to filming.
- The Armorer shall inform the Performer operating the firearm of the location of its safety devices and any operating caveats.
- The Armorer shall demonstrate to the Assistant Director and the Performer who will be operating the firearm that it is clear of barrel obstructions (and any BFA is properly seated) before the firearm is loaded with blank ammunition, called *Armed!* or *Hot!* then turned over to the Performer for use in their performance.
- If an “unloaded” firearm is to be pointed toward another Performer as the “target“, the Armorer must demonstrate before both the firearm operating Performer and especially the “target” Performer (with the Assistant Director observing and confirming) that the firearm is indeed “unloaded“. Once the firearm has been demonstrated to be “unloaded” and transferred to the operating Performer, the Armorer is required to keep their eyes on the firearm at all times until the firearm is returned into their custody.
- The Performer is forbidden from opening or “racking” the action, replacing the magazine, or opening the cylinder whenever the firearm is in their custody during any operations where an “unloaded” firearm is to be pointed toward another Performer.
- When Performers are holding firearms before filming, they shall keep them pointed in a *DOWNWARD* angle, away from their body (*NOT* upward, past anyone’s face or their own), and *NEVER* pointed in the direction of anyone within 20 feet.
- Performers shall *ALWAYS* keep their fingers *OFF* the trigger.
- The Armorer shall advise the Performer how much to offset their aim *AWAY* from any “target” Performer (the 15+ Degree Rule).

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9.2.2 DURING FILMING

These are the safety procedures to be followed *DURING* filming:

- The Performer shall disengage any safety devices on the firearm, once the camera begins to roll, while keeping their finger *OFF* the trigger until the firearm is to be discharged.
- The Performer shall draw an offset aim, as instructed.
- If the Performer cannot draw a safe, properly offset aim without endangering another Performer or Crew Member frustrating their ability to gain a safe line of fire, then the Performer will abort filming by calling "Cut!", lower the firearm to a safe direction and notify the Assistant Director or Director.
- If the Performer finds another Performer or Crew Member in the path of cartridge casings to be ejected, then the Performer will abort filming by calling "Cut!", lower the firearm to a safe direction and notify the Assistant Director or Director.
- The Performer will only put their finger on the trigger when it is their cue to do so and discharge the blank cartridge.
- If the Performer finds that the firearm will not discharge for *ANY* reason, then the Performer will abort filming by calling "Cut!", lower the firearm to a safe direction (waiting for the possibility of a delayed discharge, or "hang-fire") and notify the Armorer.
- When filming an expensive or complexly staged scene, the Assistant Director or Director may elect to notify the Performer to "fake it" if they find that the firearm will not discharge for *ANY* reason. In that event, the Performer will take no immediate action that might jeopardize the scene and continue with their performance as rehearsed - while expecting any "hang-fire" to discharge unexpectedly for up to one minute following the "dud".
- Performers must *NEVER* try to clear any stoppages themselves.

9.2.3 AFTER FILMING

These are the safety procedures to be followed *AFTER* filming:

- The Performer shall lower the firearm toward the ground, pointed *AWAY* from their body and wait for the Armorer to relieve them of custody of the firearm.
- The Performer shall *NEVER* lay any firearm down, or ever leave it unattended, or otherwise transfer custody of the firearm to anyone else but the Armorer.
- The Armorer shall recover the firearm immediately after the camera stops rolling, completely unload the firearm, then prepare to repeat the process from the beginning.

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10.0 HANDS-ON LAB WORK

Lab work will involve discharging a blank fire adapted, semi-automatic rifle, representative of the "M4" style military weapon, typically employed in contemporary action films. You will be discharging blanks indoors, within a confined area. Eye and hearing protection is mandatory. You will need to demonstrate a functional understanding of the safety disciplines taught in this course. You will be required to act in the Assistant Director role, inspecting the firearm and blank ammunition for potential hazards and indicate what points you have inspected before approving it for discharge. You will also be required to act as the Performer, discharging a number of blank cartridges in a safe manner by applying the 15+ Degree Rule. At various times while discharging the firearm, you may be asked by the individual acting as the Assistant Director to violate safety procedures, however, it shall be your responsibility to refuse to comply, and additionally, you shall point out one or more safe alternative methods to accomplish the same action for the camera.

10.1 PRINCIPLES OF CHOREOGRAPHY

Judgment shall be demonstrated by individuals acting as Performers and Assistant Directors to form a complete understanding of an action sequence, where any potentially hazardous setups within the sequence shall be identified and adequate margins of safety applied which will successfully accomplish the dramatic goals of a filmed sequence.

10.2 EVALUATION & COURSE GRADING (PASS / FAIL)

This course offers only two grades: A Passing grade or a failure.

A violation of one of more of the following points may lead to a failure:

1. Never handle any firearm unless it is expressly provided by the Instructor.
2. Always return any firearm and blank ammunition directly to the Instructor.
3. Never load a firearm with any ammunition until told to do so by the Instructor.
4. Never touch the trigger of a firearm until told to do so by the Instructor.
5. Never discharge any ammunition until told to do so by the Instructor.
6. Always point firearms in a safe direction, away from anyone else.
7. Never point any firearm at any other person for any reason.
8. Never point any firearm at yourself or your appendages.
9. Never leave a firearm unattended.
10. Never bring any ammunition whatsoever onto the course premises.
11. Never bring any firearms whatsoever onto the course premises.
12. Never attempt to clear an ammunition stoppage yourself if a firearm produces a stoppage (i.e., the firearm "jams"), notify the Instructor.
13. Always behave responsibly and do not distract or interfere with anyone handling a firearm.
14. Always wear eye and ear protection when discharging blank ammunition.
15. Always obey any and all of the instructions from the Instructor.

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LAB WORK NOTES: