

# **GUIDEBOOK for MARINES**

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## SMALL ARMS (GENERAL)

of the round. It is the opening of the breech end of the barrel.

**6. Extracting.** Pulling the empty case from the chamber.

**7. Ejecting.** Expelling the empty case from the receiver.

**8. Cocking.** Preparing the firing mechanism for the next firing phase.

**C. Weapon Operating Systems.** The type of operation which supplies the force for weapons to function may be manual, recoil, blowback, or gas.

**1. Manual.** Manually operated weapons require the shooter to provide the force for all phases of operation. Thus they cannot be automatic or semi-automatic, and only a limited number of rounds can be fired per minute. The U. S. rifle caliber .30 M1903 is a manually operated weapon.

**2. Inertia or blowback.** Inertia or blowback operated weapons use part of the expanding powder gases in the barrel to force the bolt to the rear. The weight of the bolt backed up by a strong spring keeps the bolt closed during the moment of firing and while the gas pressure is high. The Thompson Sub-Machine Gun is a blowback type weapon. A blowback operated weapon usually has no positive locking devices.

**3. Recoil.** Recoil operation utilizes the rearward push of the cartridge case against the face of the bolt to move the bolt, barrel and other parts rearward. There are two types in use today. The short recoil, in which the bolt, barrel and barrel extension move rearward locked together for a short distance, where the bolt unlocks and continues independently to the rear. The automatic pistol caliber .45, M1911A1 and the Browning Machine Guns use this system. This type of operation is used where the rate of fire is

high. In the long recoil system, the bolt, barrel and barrel extension move rearward the entire distance locked together. The bolt and barrel extension unlock from the barrel and as they move forward a new round is chambered and the bolt is tripped and closed. This type is used where the rate of fire is not high, such as the automatic shotgun and automatic artillery. In both types the barrel must move, an easy identification feature.

**4. Gas.** Weapons operated by gas use a part of the expanding powder gases in the barrel to move a piston which is housed in a cylinder. This piston provides the force needed to make the piece function. The U. S. Carbine, M1 rifle and BAR are examples of gas operated weapons.

### **D. Glossary of Small Arms Terms.**

**Chamber Pressure.** The pressure on the chamber walls resulting from the expanding gases of the fired cartridge.

**Muzzle Velocity.** The speed at which a bullet travels when it leaves the barrel; e. g. the muzzle velocity of the carbine is 1100 FPS (feet per second).

**Rate of Fire.** The number of rounds fired in one minute. See cyclic rate of fire and sustained rate of fire.

**Sustained Rate of Fire.** The actual rate of fire that a weapon can continue to deliver for an indefinite length of time without seriously overheating.

**Cyclic Rate of Fire.** The theoretical number of rounds a weapon can fire in one minute, disregarding the limits of overheating and the capacity of the magazine. A U. S. Carbine, Caliber .30, M2, given unlimited ammunition and with no malfunctions, could theoretically fire 750 rounds per minute. This means that the carbine takes 1/750 of a minute to fire each round.

## Care and Cleaning

**A. General.** The Marine today is armed with the finest infantry weapons devised

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but unless he gives them the proper care they are no better than the clubs carried by cave men. Seventy-five per cent of stoppages that occur on a modern automatic or semi-automatic weapon can be traced to improper care and cleaning. In the care and cleaning of your weapon is a simple job, but there are a few things to remember under unusual conditions. Let us take a look at some of the tools that you need to care for your weapons:

**Cleaner, rifle bore.** This fluid dissolves corrosive primer salts left in the bore of weapons after firing.

**Oil, lubricating, preservative, special.** Used for day by day protection of weapons at all temperatures down to -50 F.

**Rod, cleaning.** A steel or brass rod with a swivel handle on one end and provision for holding a cleaning patch or cleaning brush on the other, used to clean the bore of a weapon. Some rods may be taken apart, making them compact for carrying.

**Patch, cotton flannel.** A two-inch square piece of cloth used with the cleaning rod to clean the bore of a weapon. Patches should be individually packed in a waterproof envelope with 20 patches.

**Brush, wire.** A brush having brass bristles used with a cleaning rod and rifle cleaner to clean the bore of a weapon after firing.

**Toothbrush.** Used to clean out corners and crevices.

### *B. Cleaning of Weapons in Garrison.*

The daily care of your weapon is a small job requiring only a few minutes of your time. Then you will have a weapon that will pass inspections and stand by you when you need it. Here is all there is to it:

1. Inspect your weapon. Be sure the chamber is empty.

2. Field strip it.

3. With a dry rag, wipe off all old oil and dirt.

4. Use your toothbrush to clean the corners, screw heads, etc.

5. Run a dry patch through the bore to remove the old oil and dirt. Repeat this process until several patches come out clean. If the bore is still dirty, proceed as you would to clean the weapon after firing.

6. Run a lightly oiled patch through the bore. Don't forget the chamber.

7. Put a light coat of oil over all metal parts on your weapon, being careful not to trap perspiration off your fingers under the oil, where it can start rust.

8. If your weapon is magazine fed, inspect the interior of the magazine by depressing the follower. If the interior is dirty or rusted, disassemble, clean and oil lightly. You can avoid many stoppages by always handling your magazines so that they will not become dirty or dented.

9. Assemble your weapon and store it in a dust-free place. REMEMBER:

## DO

Clean your weapon at least once a day. Clean the chamber with the same care as the bore.

Use a toothbrush to clean the small,

hard-to-reach parts. Your CO may miss it, but will your weapon forget it?

4. Run a patch all the way through the bore before you try to pull the rod back out.

## DON'T

Don't use unauthorized cleaning ma-

terials. They will damage your weapon.

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2. Don't handle parts carelessly after you have oiled them. Perspiration from your hands will cause rust.

3. Don't place a patch or plug in the muzzle of your weapon. The barrel will rust due to moisture trapped by the patch. Serious injury may result if you should forget to remove the patch or plug and attempt to fire the weapon.

4. Don't wrap your weapon. The wrapping will hold moisture and rust your weapon.

5. Don't attempt to disassemble your weapon beyond authorized stripping. You may damage certain parts beyond repair.

6. Don't damage the face of the bolt with a cleaning rod that is too long. The rod should be long enough to pass through the bore and chamber but not so long that it strikes the face of the bolt. If a long rod is used, remove the bolt or cover the face of the bolt with a cloth stuffed into the receiver.

**C. Cleaning Weapons Before Firing.** Before you fire your weapon you should do the following:

1. Clean your weapon as you would in garrison but **DO NOT** put oil in the bore, chamber, or on parts of the weapon that will come in contact with the ammunition.

2. In the field make sure there is no dust, dirt, mud or snow in the bore. Failure to observe this precaution may result in serious injury.

3. If your weapon is magazine fed, check to see that magazines are clean and operative.

### **D. Cleaning Weapons After Firing**

After your weapon has been fired the task of cleaning it is even more important than the every day care you give it in the barracks. When the primer of the military cartridge explodes, it covers the bore with potassium chloride, a substance like table salt. This salt in the bore holds moisture and starts rust. As rusting progresses it eats into the metal in the bore, leaving a hole called a pit. Pits not only weaken the metal but allow gas to escape around the bullet, cutting down muzzle velocity and accuracy. Therefore barrels that are badly pitted must be replaced. If properly cared for, a weapon may be fired for years without pitting. Here is how it's done:

1. Follow steps 1 to 4 as you would when cleaning your weapon in garrison.

2. Run a patch soaked with rifle bore cleaner through the bore, follow this with a wire brush, then by several dry patches. Repeat this process until the dry patches come out clean. Clean the chamber the same way.

3. Clean the face of the bolt, piston cylinder (on gas operated weapons), and the side of receiver with a patch soaked in bore cleaner. Clean the bore cleaner off with several dry patches. Repeat this process until all traces of carbon are removed.

4. Follow steps 6 to 8 as you would when cleaning your weapon in garrison.

5. **Important.** Repeat this entire process daily for at least three days after the weapon has been fired.

**REMEMBER:**

### **DO**

1. Clean your weapon as soon as possible after firing.

2. Clean your weapon daily for the next three days.

3. Run the wire brush all the way through

the bore. Pumping it back and forth in the barrel will ruin the brush.

4. Clean the chamber, face of bolt and other places where carbon has accumulated with rifle bore cleaner.



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### DON'T

Don't use commercial type bore clean-

#### *Care of Weapons in Arctic Cli-*

mate. In the cooler regions of the earth, grease and oil thicken and cause much trouble. Grease materials, while fluid at normal temperatures, usually become thick or almost solid as the temperature drops below freezing. Consequently, they can slow down or stop the operation of weapons. For this reason, the proper type of lubricants must be used and then only in small quantities.

Such difficulty is caused by bringing cold weapons into a warm room or tent. When the cold metal of the weapon comes in contact with the warm moist air, condensation is formed, leaving drops of moisture on the weapon. These drops of moisture will cause rust or will freeze when the weapon is taken out of doors. If possible, weapons should be stored in unheated sheds. Snow, blown or piled into the weapon, will cause no harm so long as the temperature is below freezing. When the weapon becomes heated by fire, the snow melts and the moisture spreads over other surfaces. When the weapon cools, the moisture will freeze and lock the mechanism tightly, preventing further operation. Seasonal operation of the weapon by hand will keep its parts from freezing together.

#### *G. Care of Weapons in Tropical Cli-*

mate. In those tropical parts of the world where large water areas exist, there is a large amount of moisture in the air and extra precautions must be taken to prevent the weapon from rusting. At times it will be necessary to clean your weapons more than once a day.

#### *H. Care of Weapons in Desert Cli-*

mate. Due to the fact that there is little moisture in the air, rust is a small problem in the desert, but where vegetation does not cover the earth, a large quantity of dirt, sand and sand is constantly swept through the

air by wind. This material sticks to exposed oil and grease on your weapons. A grit of this nature, caught between moving parts, increases friction. A large amount will jam the moving parts and prevent their functioning. If the weapon does function under these conditions, the parts will almost certainly become worn, resulting in stoppages and requiring frequent replacement of parts. Remember, in desert climates, use as little oil as possible and clean your weapon often.

#### *I. Care of Wooden Parts of Your*

*Weapon.* The wooden parts of your weapons should receive the same amount of care as those made of metal. Wood that is allowed to dry out will crack or rot. This can be prevented by applying linseed oil. Care should be taken when applying linseed oil not to get it on the metal of your weapon. Linseed oil on metal dries into a sticky film that is hard to remove. To apply linseed oil, simply place a little in the palm of your hand and rub it into the wood until the wood is dry and shiny. Wipe excess linseed oil off the wood before assembling the weapon.

*J. Repairs.* When you find a part broken or missing on your weapon, report it at once. Your weapon will be repaired by a qualified ordnance repairman. Above all do not attempt to detail strip or repair your weapon yourself. Modern military weapons are expensive and made by precision methods. Without the proper skill and tools, attempts by you to repair your own weapon can be damaging to the weapon and dangerous to you.

*K. Special Instructions.* Due to the difference in operation and construction of some weapons, additional steps and precautions are required for their care that are not covered by this chapter. These special instructions will be covered in the chapter on the particular weapon.