INTRODUCTION TO THE SERVICE RIFLE/CARBINE

TERMINAL LEARNING OBJECTIVES

1. Given a Service Rifle/Carbine, sling, (2) magazines, cleaning gear, individual field equipment, and ammunition, without references, perform weapons handling procedures with a Service Rifle/Carbine, in accordance with the four safety rules. (0300-M16-1001)

2. Given a Service Rifle/Carbine, sling, and cleaning gear, without references, maintain a Service Rifle/Carbine, ensuring the weapon is complete, clean, and serviceable. (0300-M16-1002)

ENABLING LEARNING OBJECTIVES

1. Without the aid of references, state the four safety rules without omission. (0300-M16-1001a)

2. Given two magazines and ammunition, fill a magazine without error. (0300-M16-1001d)

3. Given a full magazine and stripper clip, empty a magazine without error. (0300-M16-1001e)

4. Given two magazines and load-bearing equipment, store the magazines in their pouches to ensure readiness for use in limited visibility conditions. (0300-M16-1001f)

5. Without the aid of references, from a diagram or an M16A4, label the parts of an M16A4 without omission. (0300-M16-1002a)

6. Without the aid of references, list the eight steps in the cycle of operation without omission and in order. (0300-M16-1002c)

1. INTRODUCTION. This lesson will introduce you to the basic handling of your weapon, the Service Rifle/Carbine. It is not intended to make you an expert, continued practice and experience will do that.

2. ORIENTATION. “Every Marine is a rifleman” is not just a slogan. Your first step in becoming a rifleman begins today. This class entails the following information.
   a. The Four Safety Rules
   b. Nomenclature of the Service Rifle/Carbine
   c. Characteristics of the Service Rifle/Carbine
   d. The Cycle of Operation
   e. Types of Ammunition Used with the Service Rifle/Carbine

3. THE FOUR SAFETY RULES. There are four weapons safety rules that have been adopted as a foundation for all Marines. These must be strictly adhered to at all times. They are:
   a. Rule #1. Treat every weapon as if it were loaded. When a Marine takes charge of a rifle in any situation, he must treat the weapon as if it were loaded, determine its condition, and continue applying the other safety rules.
b. **Rule #2. Never point a weapon at anything you do not intend to shoot.** A Marine must maintain muzzle awareness at all times. This rule exists not only for your safety, but also for the others around you.

   c. **Rule #3. Keep your finger straight and off the trigger until you are ready to fire.** A target must be identified before moving the finger to the trigger. By keeping your finger straight you prevent the reaction of prematurely firing a round prior to positively identifying the target.

   d. **Rule #4. Keep the weapon on safe until you intend to fire.** A target must be identified before taking the weapon off safe. This rule is intended to eliminate the chance of the weapon discharging by accident (e.g., brush snagging the trigger). Additionally, this rule acts as a fail safe. It protects you and fellow Marines from allowing an automatic motor-reflex determine when the weapon will fire.

4. **NOMENCLATURE OF THE SERVICE RIFLE/CARBINE.**

   a. **Main Groups.** The Service Rifle/Carbine is composed of three main groups: the upper receiver, lower receiver, and bolt carrier group. Figures 1, 2, and 3 identify the three major groups of the Service Rifle/Carbine.
LEGEND FOR FIGURE 1, “UPPER RECEIVER.”

A. **COMPENSATOR**
   * Reduces the blast signature by directing the escape of gases in an upward direction
   * Reduces felt recoil and muzzle rise.

B. **FRONT SIGHT ASSEMBLY**
   * Front sight post is used to move the strike of the round vertically
   * Wings on the assembly protect front sight post from impact
   * Houses the gas return port

C. **BAYONET STUD**
   * Used to mount a bayonet

D. **BARREL**
   * Houses the chamber and the locking lugs

E. **HAND GUARDS**
   * The hand guard protects the operator’s hands from the heat of the barrel, while allowing air to circulate around and cool the barrel
   * In the Service Rifle/Carbine, the hand guards are augmented by the M5 Rail Adapter System (RAS) which provides four additional mounting rails for the attachment of accessories to mission-tailor the weapon

F. **SLIP RING**
   * Locks the hand guards onto the upper receiver

G. **CARRYING HANDLE**
   * Houses the rear sight aperture
   * Reinforces the stability of the rear sight system
   * Detachable on Service Rifle/Carbine with M5 Rail Adapter System

H. **REAR SIGHT ASSEMBLY** Consists of three sub-categories
   * Elevation Knob - Adjusts the strike of the round up and down
   * Windage Knob - Adjusts the strike of the round left and right
   * Rear sight aperture - Used in conjunction with the front sight post for aiming. Has two settings, one for normal daytime sighting, and one for limited visibility/nighttime

I. **EJECTION PORT**
   * Used to eject rounds after firing

J. **EJECTION PORT COVER**
   * Prevents debris from accumulating in the chamber
   * Should be closed when not firing the weapon

K. **SPENT BRASS DEFLECTOR**
   * Deflects brass forward and away from left-handed shooters

L. **FORWARD ASSIST**
   * Manually forces the bolt home
**LEGEND FOR FIGURE 2, “LOWER RECEIVER”**

A. **MAGAZINE RELEASE BUTTON**
   * Releases the magazine

B. **TRIGGER/GUARD**
   * Adapts to cold weather firing by rotating down along the pistol grip, allowing the shooter to fire with mittens on

C. **REAR/FRONT TAKEDOWN PINS**
   * Used in assembly/disassembly of the upper and lower receiver
   * Pull from left to right (NOT REMOVABLE)

D. **SELECTOR LEVER**
   * Three positions: Safe, Semi, and Burst.

E. **PISTOL GRIP**
   * Provides stability when firing

F. **BUTTPLATE ASSEMBLY**
   * Drainage hole
   * Door covers cleaning compartment

G. **BUTTSTOCK**
   * Contains buffer and action spring
   * Provides stability when firing
   * Used to store cleaning gear

H. **BOLT CATCH**
   * Locks the bolt to the rear
   * Allows for proper clearing and inspection of the chamber
H. Picture of the Bolt Catch:

**Bolt Carrier Group**

![Bolt Carrier Group Diagram]

1. Firing pin
2. Firing pin retaining pin
3. Bolt cam pin
4. Bolt
5. Bolt carrier

**Fig. 3**

Not Shown in Fig. 4:
**CHARGING HANDLE**. When the charging handle is pulled to the rear, the bolt unlocks from the barrel extension locking lugs and the bolt carrier group moves to the rear of the receiver.

**Fig. 4**
5. CHARACTERISTICS OF THE SERVICE RIFLE/CARBINE.

a. Characteristics. Marines use the acronym “LMGAS” to remember the pertinent information about the Service Rifle/Carbine. The Service Rifle/Carbine simply stated; fires a 5.56mm projectile and is a Lightweight, Magazine-fed, Gas-operated, Air-cooled, Shoulder-fired weapon that can be fired either in automatic three-round bursts or semiautomatic single shots.

b. Weights. The Service Rifle/Carbine and its components are weighed separately in order to allow the individual leader the flexibility to task Marines accordingly. The weights are:

(1) Rifle w/o magazine 7 lbs 8 oz
(2) Magazine 30 rounds 1 lb 1 oz
(3) Bayonet w/ scabbard 15.5 oz
(4) Sling, adjustable 4 oz

c. Capabilities. The capabilities consist of the rates of fire and range of the Service Rifle/Carbine.

(1) Rates of fire.

Cyclic rate of fire: Approx. 700-900 rds./min.

Max rate of fire:

Semi–45 rounds per minute.

Burst–90 rounds per minute.

Sustained rate of fire: 12-15 rounds per minute.

(2) Ranges.

Max range: 3600 meters (approx)

Max effective range:

550 meters (individual/point targets)

800 meters (area targets)

6. THE CYCLE OF OPERATION.

a. The Service Rifle/Carbine has eight steps in its cycle of operation. They are:

(1) Firing.

(2) Unlocking.

(3) Extracting.

(4) Ejecting.

(5) Cocking.

(6) Feeding.
7. **TYPES OF AMMUNITION USED WITH THE SERVICE RIFLE/CARBINE.**

    a. **M193 Ball.** This ammunition is a 5.56mm, center fire cartridge with a 55-grain gilded-metal jacket, lead alloy core bullet. The primer and case are waterproofed. The M193 ball ammunition has no identifying marks.

    b. **M855 Ball.** This ammunition is the primary ammunition for the Service Rifle/Carbine. Identified by a green tip, its 5.56mm, center fire cartridge has better penetration than the M193. It has a 62-grain gilded-metal jacket bullet. The rear two-thirds of the core of the projectile is lead alloy and the front one-third is a solid steel penetrator. The primer and case are waterproofed.

    c. **M196 And M856 Tracer.** This ammunition has the same basic characteristics as ball ammunition. Identified by a bright red tip, its primary uses include observation firing, incendiary effect, and signaling. Tracer ammunition should be intermixed with ball ammunition in a ratio no greater than 1:1. The preferred ratio is one tracer to four ball (1:4) to prevent metal fouling in the bore.

    d. **M199 Dummy.** This ammunition has six grooves along the side of the case. It contains no propellants or primer. The primer well is open to prevent damage to the firing pin. The dummy cartridge is used during dry fire and other training purposes.

    e. **M200 Blank.** This ammunition has the case mouth closed with a seven-petal rosette crimp. It contains no projectile. Blank ammunition, identified by its violet tip, is used for training purposes.

8. **PREPARING A MAGAZINE FOR USE.**

    a. **Filling The Magazine With Loose Rounds (Individually).**

To fill a magazine with loose rounds, first remove a magazine from the magazine pouch. Place a round on top of the follower and press down until the round is held between the follower and magazine feed lips. Ensure the projectile of the round is parallel with the simulated projectile on the follower. Repeat until the desired number of rounds is inserted. The recommended number of rounds per magazine is 28 or 29. Thirty rounds in the magazine may prohibit the magazine from seating properly on a closed bolt. Tap the back of the magazine to ensure the rounds are seated against the back of the magazine.
b. **Filling The Magazine With A Stripper Clip And Magazine Filler (Speed loader).** Remove a magazine from the magazine pouch. Slide the magazine filler into place. Place a 10-round stripper clip into the narrow portion of the magazine filler. Using thumb pressure on the rear of the top cartridge, press down firmly until all ten rounds are below the feed lips of the magazine. Remove the empty stripper clip while holding the magazine filler in place. Repeat until the desired number of rounds is inserted.

c. **Stowing Magazines.**

   1. **Magazine pouch.** In a magazine pouch, filled magazines are stored with rounds down and projectiles pointing away from the body.

   2. **Load-bearing vest.** In a load-bearing vest, filled magazines are stored with rounds down and projectiles pointing outboard.

   3. **Empty or partially filled magazines.** Empty or partially filled magazines are stored with the follower up to allow the selection of filled magazines by touch (i.e., at night).

d. **Emptying The Magazine.** To empty a magazine, first remove a magazine from the magazine pouch. Place thumb on top of a round, press downward and forward until the round is released from the follower and magazine feed lips. Repeat until all rounds have been removed from the magazine. Return empty magazine to magazine pouch for proper stowage.

**NOTES:**

**REFERENCE:**
Rifle Marksmanship  
USMC Technical Manual  
MCRP3-01a  
TM 05538/10012-IN