

UNITED STATES MARINE CORPS
FIELD MEDICAL TRAINING BATTALION
Camp Lejeune, NC 28542-0042

FMST 107

Perform Preventive Maintenance on the Service Rifle

TERMINAL LEARNING OBJECTIVE.

1. Given a service rifle, sling, and cleaning gear, perform preventative maintenance to ensure the weapon is complete, clean, and serviceable IAW TM 05538/10012-OR. (HSS-MCCS-1005)

ENABLING LEARNING OBJECTIVES.

1. Given a service rifle and sling, ensure the **weapon is in condition 4** without error and in accordance with TM 05538/10012-OR. (HSS-MCCS-1005a)

2. Given a service rifle and sling, **disassemble the weapon**, without error and in accordance with TM 05538/10012-OR. (HSS-MCCS-1005b)

3. Given a service rifle, sling, and cleaning gear, **clean the weapon**, so that it is clean, serviceable, and passes a functions check, and in accordance with TM 05538/10012-OR (HSS-MCCS-1005c)

4. Given a service rifle, sling, and cleaning gear, **assemble the weapon**, so that it passes a functions check, and in accordance with TM 05538/10012-OR. (HSS-MCCS-1005d)

5. Given a service rifle, sling, and cleaning gear, **perform a functions check** without error and in accordance with TM 05538/10012-OR. (HSS-MCCS-1005e)

1. **M4 WEAPON COMPONENTS**

- a. Upper Receiver
- b. Lower Receiver
- c. Charging Handle
- d. Bolt Carrier Group
 - Retaining Pin
 - Firing Pin
 - Cam Pin
 - Bolt

2. **ENSURE WEAPON IS CONDITION 4**

- a. Condition Four (Leave the M16/M-4 in this condition unless told to do otherwise)
 - No magazine inserted
 - No round in chamber
 - Bolt forward
 - Weapon on safe
 - Ejection port cover closed

- 3. **DISASSEMBLY:** Before you disassemble the rifle ensure the weapon is on safe (see figure 6).

Clearing the M16/M4 Carbine Service Rifle (Safety Features/Precautions)

- Attempt to point the selector lever to safe. If the weapon is not cocked, the selector lever cannot be pointed to safe. (see figure 6)
- Remove the magazine from the weapon by grasping it with the left hand, press the magazine release button with your right index finger, and pull the magazine straight down - Lock the bolt carrier to the rear by grasping the charging handle, pressing the charging handle latch, and pull the charging handle all the way to the rear.
- Press in on the bottom of the bolt catch with the thumb or forefinger. Allow the bolt carrier to move slowly forward until the bolt engages the bolt catch. Return the charging handle to its forward position.
- Inspect the receiver and chamber by looking through the ejection port to ensure these areas do not contain ammunition.

The rifle is clear and safe only when:

There is no round in the chamber

The magazine is out



Figure 6. Selector Switch on Safe

The bolt carrier is locked to the rear

The selector lever is in the safe position

Disassembly - When the weapon is clear you can disassemble the weapon by doing the following:

Allow the bolt carrier to go forward by depressing the upper portion of the bolt catch.

Remove the sling and place the rifle on the table or a flat surface, muzzle to the left, weapon on the right side.

Remove the hand guards

Place the butt of the weapon against a flat surface and pull down on the slip ring until the lower lip of one hand guard is clear.

Pull out and down on the hand guard until the upper lip is cleared of the hand guard cap.

Repeat the same operation to remove the other side of the hand guard.

Considerable pressure is required to remove the hand guard from the slip ring.

Detach the upper receiver from the lower receiver (see figure 7).

Press out the take down pin from left to right until the upper receiver swings free of the lower receiver.

Press out the receiver pivot pin.

Separate the upper and lower receiver groups.

Place the lower receiver group on the table.



Figure 7. Detach upper and lower receiver

Removing the charging handle and the bolt carrier group

Hold the upper receiver group with the muzzle and carrying handle up. Grasp the charging handle.

Press the charging handle. Latch and pull the charging handle three inches to the rear to withdraw the bolt carrier from the receiver (see figure 8).

Grasp the bolt carrier and pull it out from the receiver. When the bolt carrier is removed, the charging handle can be removed from its groove in the receiver.

Place the upper receiver on the table.



Figure 8. Removing the bolt carrier

Disassemble the bolt carrier group (see figure 9)

Press out the fire-retaining pin from right to left.

Elevate the front of the bolt carrier and allow the firing pin to drop free from its recess in the bolt. Rotate the bolt until the cam pin is clear of the bolt carrier key and remove the cam pin by rotating the head 90 degrees (1/4 turn) in either direction. Lift out of well in the bolt and bolt carrier. After the cam pin is removed, the bolt can be removed from its recess in the bolt carrier and disassembly of the bolt carrier group is complete.

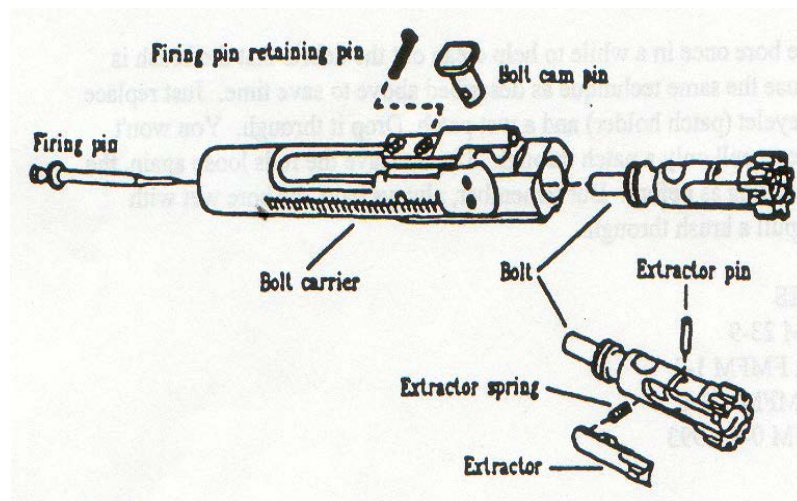


Figure 9. Bolt Carrier Group

Remove the buffer assembly

Push down on the buffer retainer. Allow the buffer assembly to move forward slowly until it is clear of the buffer retainer. Depress the hammer to the rear (downward) to allow the buffer assembly to clear the hammer. Remove the buffer assembly and the action spring.

4. **CLEAN THE SERVICE RIFLE**

Normal care and cleaning will result in proper functioning of all parts of the weapon. Improper maintenance causes stoppages and malfunctions. Only "issued" cleaning materials should be used. These cleaning materials are carried in the compartment provided in the stock of the weapon on the M16 or in the cleaning kit for the M4 Carbine. Do not use any abrasive material to clean the rifle. Cleaner Lubricant and Preservative (CLP) is the only authorized lubricant for the M16/M4 Carbine rifle.

Cleaning and lubrication of the upper receiver

Clean the upper receiver until free of powder.

After cleaning, coat the interior surfaces of the upper receiver with CLP. Pay particular attention to shiny surfaces which indicate areas of friction.

Cleaning and lubrication of the barrel

Attach a bore brush to the cleaning rod, dip it in CLP, and brush the bore thoroughly.

Brush from the chamber to the muzzle using straight-through strokes.

Push the brush through the bore until it extends beyond the muzzle compensator.

Continue this process until the bore is free of carbon and fouling (never reverse the direction of the brush while in the bore).

Remove the brush from the cleaning rod and dry the bore with clean patches.

Do NOT attempt to retract the patch until it has been pushed all the way out of the muzzle compensator.

CAUTION: The cleaning rod is to be supported by hand, one section at a time, to prevent flexing and damage to the bore.

Cleaning the chamber

Attach the chamber-cleaning brush to a section of the cleaning rod.

Dip it in CLP, and insert it in the chamber.

Scrub in a circular motion.

Remove the brush and dry the chamber thoroughly with clean patches.

Clean the locking lugs in the barrel extension, using a small bristle brush dipped in CLP to remove all carbon deposits.

Clean the protruding exterior of the gas tube in the receiver with the bore brush attached to a section of the cleaning rod.

After cleaning, lubricate the bore and locking lugs in the barrel extension by applying a light coat of CLP to prevent corrosion and pitting. If the hand guards have been removed, rub a light coat of CLP on the surface of the barrel.

Place one or two drops of CLP on the front sight post.

Cleaning and lubrication of the bolt carrier group

Thoroughly clean all parts with a patch or an all-purpose brush dipped in CLP.

Clean the locking lugs of the bolt, using an all-purpose brush and CLP.

Ensure that all carbon and metal filings are removed; then wipe it clean with dry patches and lubricate lightly.

Use an all-purpose brush dipped in CLP to scrub the extractor to remove carbon and metal filings; also clean the firing pin recess and the firing pin.

When dry and before final assembly, apply a coat of CLP to the bolt body, rings and carrier key.

When bolt carrier group is reassembled, apply a liberal amount of CLP to all exterior surfaces with particular emphasis to the friction points (i.e., rails and cam area). Put one drop of CLP in the cam pin track and two drops in the gas ports.

Cleaning and lubrication of the lower receiver group

Wipe any particles of dirt from the trigger mechanism with a clean patch or brush and place a drop of CLP on each of the pins for lubrication. Components of the lower receiver group can be cleaned with CLP and a brush.

Use a scrubbing action to remove all carbon residue and foreign material and then drain the CLP from lower receiver and wipe dry.

Cleaning and lubrication of the magazine

Disassemble the magazine, being careful not to stretch or bend the spring.

Scrub the inside of the magazine with a bristle brush, dipped in CLP, and wipe it dry.

The magazine is made of aluminum and does not need any lubrication.

Scrub the spring clean of any foreign material using an all-purpose brush dipped in CLP.

Wipe dry and apply a very light coat of CLP to the spring.

5. **ASSEMBLY OF THE M16/M4 CARBINE RIFLE**

Lower receiver group assembly

Press hammer to the rear (downward).

Insert the buffer assembly into the recess in the stock of the weapon.

Depress the buffer retainer so that the buffer assembly will insert into the recess completely.

Release the pin so the buffer assembly is locked into place.

Set the bolt carrier group down on the table.

Bolt carrier group assembly

Insert the bolt through the front end of the carrier with the extractor facing at the 11 o'clock position.

Insert the cam pin into the carrier and rotate it $\frac{1}{4}$ turn.

Insert the firing pin through the rear of the carrier and let it drop into the recess for the firing pin.

Insert the firing pin retainer pin into the carrier from left to right.

Set the bolt carrier group down on the table.

Upper receiver group and charging handle assembly

Replace the charging handle by placing the charging handle inside the upper receiver. This is done by lining up the grooves on the charging handle with the slots in the upper receiver and pushing it in about one inch. Then, insert the bolt carrier group, with the carrier key resting in the charging handle, into the upper receiver until they lock into place.

Assembly of major parts

Align the upper receiver with the lower receiver together, push in the pivot, and take down pins to lock the receivers together.

Insert the top of each hand guard cap and pull down on the slip ring so the bottom lip of the hand guard will slip in and lock in place when you release the slip ring.

Lock the bolt to the rear by pulling on the charging handle and pressing the bolt catch and letting the carrier go forward slowly until the bolt catch engages the bolt carrier group.

Return the charging handle to the original position. Place the selector lever on safe.

Replace the sling on the weapon.

6. **FUNCTIONS CHECK** A function check of the rifle consists of checking the operation of the rifle while the selector lever is in each position; Safe, Semi, and Burst
 1. Ensure the weapon is Condition Four
 2. Select SAFE on the selector lever
 3. Rack the charging handle to the rear and release
 4. Pull the trigger - Hammer should not fall
 5. Select SEMI on the selector lever
 6. Pull the trigger and hold it to the rear – Hammer should fall
 7. Rack the charging handle back and release
 8. Slowly release the trigger – Hear and audible (Clunk)
 9. Select BURST on the selector lever
 10. Pull the trigger and hold it to the rear – Hammer should fall
 11. Rack the charging handle back three times and release
 12. Slowly release the trigger – Hear and audible (Clunk)

13. Place the weapon on DAFE on the selector lever

REFERENCE(S)

Marine Corps Combat Marksmanship Program MCO 3574.2_
Operator's Manual With Components List For Rifle
M16A2, Rifle M16A4, Carbine M4, Carbine M4A1
CQBW (Sep 2012)
TM 05538/10012-OR
Rifle Marksmanship MCRP 8-10B.2