INTRODUCTION TO WEAPONS MAINTENANCE

TERMINAL LEARNING OBJECTIVE.

1. 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)

ENABLED LEARNING OBJECTIVES.

1. Given a service rifle/carbine and prescribed cleaning gear, disassemble the rifle to perform preventive maintenance. (0300-M16-1002b)

2. Given a service rifle/carbine, cleaning gear and lubricant, perform preventive maintenance on the service rifle/carbine, to ensure weapon function. (0300-M16-1002d)

3. Given a service rifle/carbine, cleaning gear and lubricant, lubricate the service rifle/carbine per MCRP 3-01A, for the environment where it will be used. (0300-M16-1002e)

4. Given a disassembled service rifle/carbine, re-assemble the rifle to return to full operation. (0300-M16-1002f)

5. Given a service rifle/carbine, perform a user serviceability inspection to ensure the weapon is in operating condition. (0300-M16-1002g)
1. **DISASSEMBLE THE SERVICE RIFLE/CARBINE.**

   a. **Order Of Disassembly.** Always disassemble your weapon in the following order.

      (1) Ensure your rifle is clear.

      (2) Remove sling.

      (3) Push both takedown pins as far as they will go.

      (4) Separate upper and lower receivers.

      (5) Pull back charging handle and bolt carrier.

      (6) Remove bolt carrier and bolt.

      (7) Remove charging handle.

      (8) Remove firing pin retaining pin.
(9) Push bolt inward to locked position.

(10) Drop firing pin out to the rear of bolt carrier.

(11) Remove bolt cam pin.

(12) Remove bolt assembly from carrier.

(13) Press in buffer, depress retainer, and release buffer.
2. **MAINTENANCE ON THE SERVICE RIFLE/CARBINE.**

   a. **Normal Care And Cleaning.** Normal care and cleaning will result in proper functioning of all parts of the rifle. Use only issue-type cleaning materials. Improper maintenance can cause stoppages, reducing your combat readiness and effectiveness.

   (1) **Inspection.** While cleaning the rifle, and during each succeeding step in the preventive maintenance process, inspect each part for cracks and chips and to ensure parts are not bent or badly worn. Report any damaged part to the armorer. Inspection is a critical step to ensure the combat readiness of your rifle. It is performed normally during rifle cleaning (prior to lubrication), however, it can be performed throughout the preventive maintenance process.

   (2) **Cleaning Materials.** The following cleaning materials will be used in preventive maintenance:

      (a) Brushes: bore, chamber and general purpose.

      (b) Rod in three sections and a T-handle assembly.

      (c) Patch holder section, cotton-tipped swabs, patches, pipe cleaners and rags.

      (d) CLP (Cleaner, Lubricant, and Preservative). CLP does three things, it contains solvents to dissolve firing residue and carbon, it lays down a layer of Teflon as it dries to provide lubrication, and it prevents rust from forming.

   **NOTE:** Follow the instructions below to use CLP:

   1) Always shake the bottle well before use.

   2) Place a couple of drops of CLP on a patch or rag.

   3) Clean your rifle with these patches and rags until they come out clean.
4) Take a clean patch or rag and apply a fresh, light coat of CLP.

(3) **Upper Receiver.** The basic cleaning of the upper receiver should include the following:

(a) Attach the three rod sections together but leave each one about one turn short of being tight.

(b) Attach the bore brush to the rod but leave it one turn short of being tight. Put a few drops of CLP on the bore brush. Insert the rod into the barrel from the chamber end, attach the handle and pull the brush through the bore.

(c) Inspect the bore for cleanliness.

(d) Attach the patch holder onto the rod and put a CLP-moistened patch into the patch holder.

(e) Point the muzzle down and insert the non-patch end of the rod into the chamber and pull it through the bore.

(f) Repeat the above steps until patches come out of the bore clean.

(g) Attach the chamber brush and one section of the cleaning rod to the handle. Moisten it well with CLP and insert it into the chamber.

(h) Scrub the chamber and bolt lugs using a combination of a plunging and clockwise rotating action.

(i) Do not reverse direction of the brush while it is in the chamber.

(j) Clean the interior portion of the upper receiver with the general purpose brush and CLP.

(k) Dry the bore, chamber, and the interior of the receiver with rifle patches until they come out clean.

(4) **Bolt Carrier Group.**

(a) Clean the outer and inner surfaces of the bolt carrier with the general purpose brush and CLP.

(b) Clean the bolt carrier key with a pipe cleaner and CLP only.

(c) Clean the locking lugs, gas rings, and exterior of the bolt with the general purpose brush and CLP.

(d) Insert a swab into the rear of the bolt and swab out the firing pin recess and gas ports.

(e) Clean the extractor with the general purpose brush and CLP, ensuring that all the carbon is removed from underneath the extractor lip.

(f) Clean the firing pin, firing pin retaining pin, and extractor pin using the general purpose brush and CLP.

(g) Clean the charging handle assembly with the general purpose brush, CLP, and patches.

(5) **Lower Receiver.**

(a) Wipe dirt from the firing mechanism with a clean patch, general purpose brush, and pipe cleaners.

(b) Clean the outside metal parts with the general-purpose brush and CLP. Clean the buttplate and rear sling swivel, ensuring the drain hole is clear of dirt.

(c) Wipe the inside of the buffer tube, buffer, and action spring with a clean rag.
b. **Cleaning The Service Rifle/Carbine In Abnormal Conditions.** The elements that will effect the rifle the most are water, sand, and extreme cold.

1. **Hot wet climate.**
   - Perform normal maintenance.
   - Clean and lubricate your rifle more often. Inspect hidden surfaces for corrosion. Pay particular attention to spring-loaded detents.
   - Use lubricant more liberally.
   - Unload and check the inside of the magazine more frequently. Wipe dry and check for corrosion.
   - When practical, keep the rifle covered.

2. **Hot dry climate.** Hot dry climates are usually areas that contain sand and fine dust. Dust and sand will get into the rifle and magazines, causing malfunctions. It is imperative that you pay particular attention to the cleaning and lubrication of the rifle in this type of climate.
   - Corrosion is less likely to form in these environments, and lubrication will attract more dirt. For this reason, use lubrication more sparingly.
   - Whenever practical, keep the rifle covered.

3. **Extreme cold/artic.** Clean and lubricate the rifle in a warm room with the rifle at room temperature, if possible. Lubricating Oil, Arctic Weapons (LAW) can be used below a temperature of 32 degrees Fahrenheit and must be used below -35 degrees Fahrenheit.
   - Keep the rifle covered when moving from a warm to cold environment to allow gradual cooling of the rifle. This prevents the condensation of moisture and freezing.
   - Always try to keep the rifle dry.
   - Unload and perform a function check every 30 minutes to help prevent freezing of functioning parts.
   - Do not lay a warm rifle in the snow or ice.
   - Condensation will form on the rifle when it is moved from outdoors to indoors. If possible, leave the rifle in a protected but cold area outdoors. When bringing the rifle inside to a warm place, it should be disassembled and wiped down several times as it warms.
   - Keep the inside of the magazine and ammunition dry. Moisture will freeze and cause malfunctions.

3. **LUBRICATE THE SERVICE RIFLE/CARBINE.** Lubrication is performed as part of the detailed procedure for preventive maintenance and also in preparation for firing.

   a. **Lubricant.** In all but the coldest Arctic conditions, CLP is the lubricant for the rifle. Remember to remove excess CLP from the bore and chamber before firing.

      1. To lightly lube means to apply a film of CLP barely visible to the eye.
(2) To generously lube means to apply CLP heavily enough that it can be spread with the finger.

(a) **Upper receiver.**

1) Lightly lube the inside of the upper receiver, bore, chamber, outer surfaces of the barrel, and surfaces of the handguard.

2) Depress the front sight detent and apply two or three drops of CLP to the front sight detent.

3) Lubricate all the moving parts of the rear sight assembly.

(b) **Bolt carrier group.**

1) Generously lube the outside of the cam pin area, bolt rings, and outside the bolt body. Stagger the gas rings on the bolt to stop gas loss.

2) Lightly lube the charging handle and inner and outer surfaces of the bolt carrier.

(c) **Lower receiver.**

1) Lightly lube the inside of the lower receiver extension.

2) Generously lube the moving parts inside the lower receiver and their pins.

4. **REASSEMBLE THE SERVICE RIFLE/CARBINE.**

a. **Assembly Sequence.** Always assemble your weapon in the following order.

(1) Insert action spring and buffer.

(2) Slide bolt into carrier.

(3) Replace bolt cam pin.

(4) Drop and seat firing pin.
(5) Pull bolt out until extended.

(6) Replace firing pin retaining pin.

(7) Engage, then push charging handle part way.

(8) Slide in bolt carrier group.

(9) Push charging handle and bolt carrier group together.

(10) Join upper and lower receivers.
(11) Engage takedown pins.

(12) Ensure weapon is on SAFE.

(13) Replace sling.

5. **PERFORM A FUNCTION CHECK WITH THE SERVICE RIFLE/CARBINE.**

   a. **Sequence Of A Function Check.** A function check is performed to ensure the rifle works properly.

      (1) Charge the weapon once by pulling the charging handle to the rear, then release it.

      (2) Place the selector lever on SAFE and squeeze the trigger, the hammer should not fall.

      (3) Place the selector lever on SEMI and squeeze the trigger, the hammer should fall.

      (4) While holding the trigger to the rear charge the weapon once.
(5) Release the trigger, you should hear an audible clunk. Squeeze the trigger again, the hammer should fall.

(6) Charge the weapon once and place the selector lever on BURST.

(7) Squeeze the trigger, the hammer should fall.

(8) While holding the trigger to the rear charge the weapon three times.

(9) Release the trigger, you should hear an audible clunk. Squeeze the trigger again, the hammer should fall.

(10) Charge the weapon once and place the selector lever on safe. Close the ejection port cover.

REFERENCE:
Rifle Marksmanship MCRP3-01
USMC Technical Manual TM 05538/10012-IN
USMC TM 9-1005-319-10