

CHAPTER 10: Maintain M16A2 Rifle

MAINTAIN A M16a1 OR M16a2 RIFLE

Conditions: Given an M16A1 or M16A2 rifle, magazine, 5.56-mm ammunition, small arms maintenance equipment case and lubricating instructions. You have the following cleaning materials: Swabs, pipe cleaner, and cleaner lubricant preservative (CLP). You also have lubricating oil, semi-fluid, weapons; lubricating oil, Arctic, weapons; and rifle bore cleaner.

Standards: Clean, inspect and lubricate the rifle and magazine so that they function correctly. Clean and inspect the ammunition. Turn in any unserviceable ammunition.

Training & Evaluation Guide

Performance Steps:

1. **Clear the rifle.**
 - a. Remove the magazine from the rifle, if there is one present.
 - b. Cock the rifle.
 - c. Turn the selector to SAFE (figure 10-1).

***Note:** The selector cannot be turned to SAFE unless the rifle is cocked.*

-
-
-
- d. Lock the bolt open (figure 10-2).

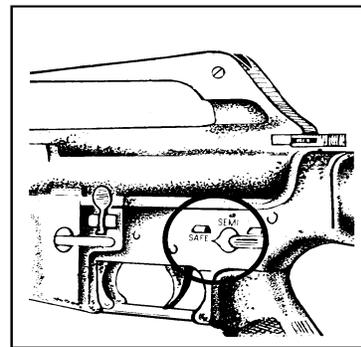


Figure 10-1. Selector Lever On Safe

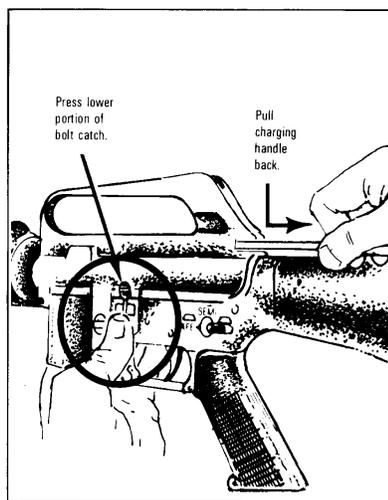


Figure 10-2. Locking the Bolt Open

- (1) Pull the charging handle rearward.
 - (2) Press the bottom of the bolt catch.
 - (3) Allow the bolt to move forward until it engages the bolt catch.
 - (4) Return the charging handle to the forward position.
 - (5) Ensure the selector is on SAFE.
- e. Check the receiver and chamber to ensure they do not contain ammunition (figure 10-3).
 - f. Allow the bolt to go forward by pressing the upper portion of the bolt catch (figure 10-4).

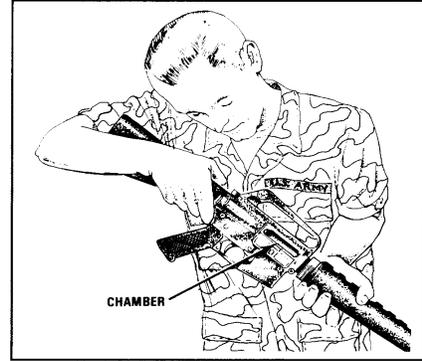


Figure 10-3. Inspecting the chamber

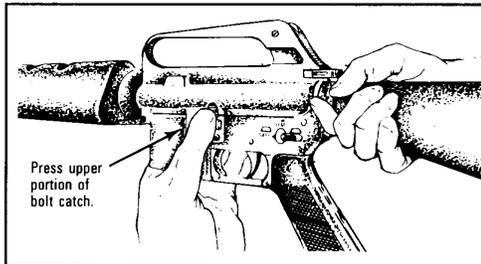


Figure 10-4. Releasing the Bolt

2. Disassemble the Rifle.

- a. Verify the rifle is clear.
- b. Remove the sling.
- c. Remove the hand guards only if you can see dirt or corrosion through the vent holes (figure 10-5). Hand guards on the M16A2 are interchangeable because they are identical.

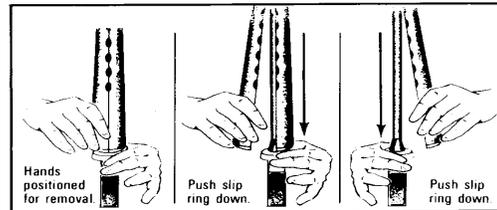


Figure 10-5. Removing the Hand Guards

WARNING: Use Care So As Not To Bend Or Dent The Gas Tube While Removing Hand guards.

- d. Push the takedown pin as far as it will go and pivot the upper receiver from the lower receiver (figure 10-6).
- e. Push the receiver pivot pin (figure 10-7).

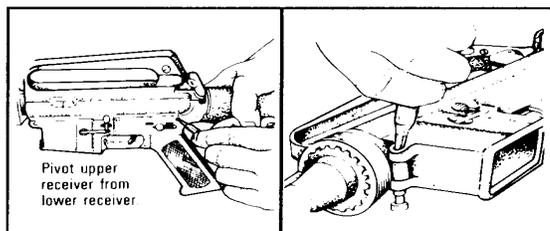


Figure 10-6. Pushing the Takedown Pin

Figure 10-7. Pushing the Receiver Pivot Pin

- f. Separate the upper and lower receivers (figure 10-8).
- g. Pull back the charging handle (figure 10-9).

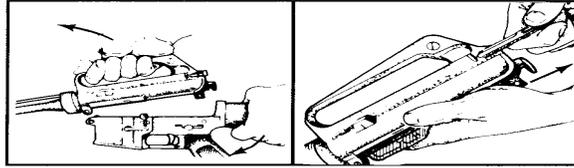


Figure 10-8 Separating the Upper & Lower Receivers

Figure 10-9. Pulling the Charging Handle

- h. Remove the bolt carrier and bolt (figure 10-10).
- i. Remove the charging handle (figure 10-11).

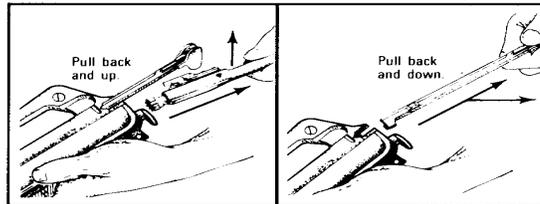


Figure 10-10. Removing the Bolt Carrier & Bolt

Figure 10-11. Removing the Charging Handle

- j. Remove the firing pin retaining pin (figure 10-12).
- k. Put the bolt assembly in the locked position by pushing in the bolt (figure 10-13).

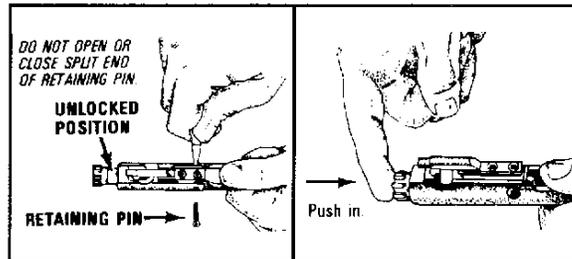


Figure 10-12. Removing the Firing Pin Retaining Pin

Figure 10-13. Bolt in the Locked Position

- l. Remove the firing pin by allowing it to drop out of the rear of the bolt carrier into your hand (figure 10-14).
- m. Remove the bolt cam pin by turning it one quarter-turn and lifting it out (figure 10-15).

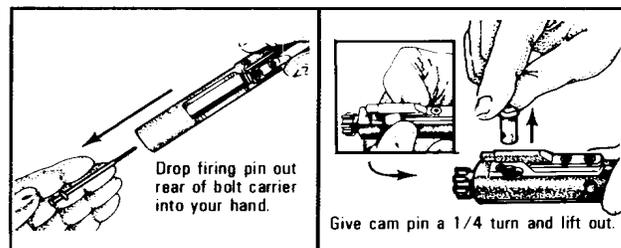


Figure 10-14. Removing the Firing Pin

Figure 10-15. Removing the Bolt Cam Pin

n. Pull the bolt assembly from the carrier (figure 10-16).

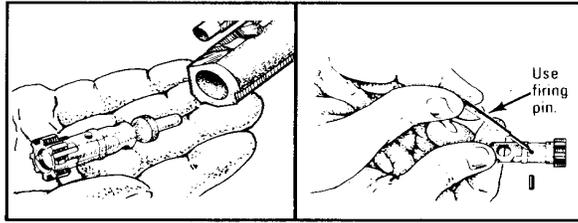


Figure 10-16. Removing the Bolt

Figure 10-17. Removing the Extractor Pin

Note: Perform steps "o" through "r" only when the parts are dirty or damaged.

- o. Remove the extractor pin by pushing it out with the firing pin (use care not to damage the firing pin) (figure 10-17 above).
- p. Lift out the extractor and spring (figure 10-18), taking care so that the spring does not separate from the extractor.

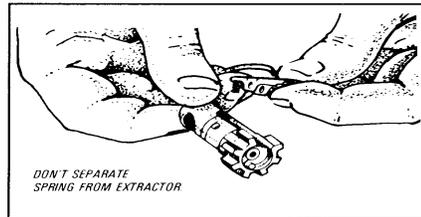


Figure 10-18. Removing the Extractor and Spring

Note: Press the top of the extractor to check spring function.

- q. Release the buffer by pressing the buffer and depressing the retainer.
- r. Remove the buffer and action spring separating the buffer from the spring (figure 10-19 and figure 10-20).
- s. Do not disassemble the rifle further.

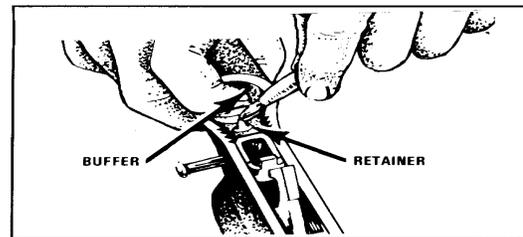


Figure 10-19. Separating the Buffer & Spring

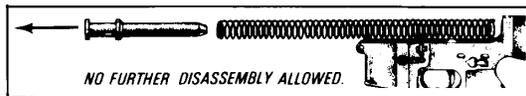


Figure 10-20. Separating the Buffer & Spring

3. **Clean the Rifle** by removing carbon buildup and lubricating according to lubrication instructions. Make sure you remove any excessive oil from the bore before firing.

Note: After firing ball or blank ammunition, clean the weapon one time only with CLP. Under all but the coldest arctic conditions, use only CLP to lubricate the rifle.

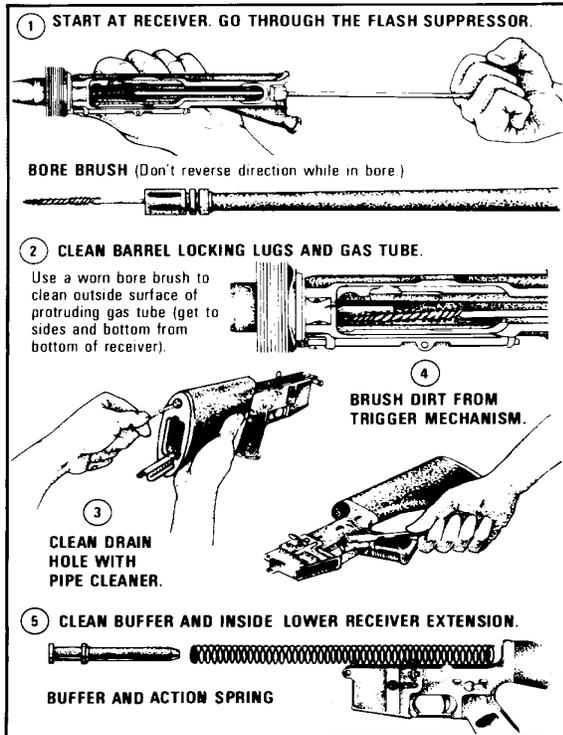


Figure 10-21. Cleaning the Receivers

- a. Clean the upper and lower receiver group using CLP to remove powder fouling in the upper receiver (figure 10-21).
- b. Clean the bolt carrier group, wiping the following parts with swabs and other parts from the small arms maintenance equipment case (figure 10-22).
 1. The outer and inner surfaces of the bolt carrier.
 2. The carrier key.
 3. The firing pin recess and firing pin.
 4. The firing pin hole with a pipe cleaner.
 5. The carbon deposits and dirt from the locking lugs.
 6. The areas behind the bolt ring and under the lip of the extractor.

- c. Clean the following rifle parts lightly lubricating with CLP (figure 10-22).
 1. Lugs in the barrel extension, bore, and chamber.
 2. Bolt carrier.
 3. Slide cam pin area.
 4. Piston rings.
 5. Outside the bolt body.
 6. Inside the bolt carrier key.
 7. Firing pin and firing pin recess.
 8. Outside surface of the protruding gas tube with a worn bore brush.
 9. Buffer.
 10. Action spring.
 11. Inner surfaces of the lower receiver extension.
 12. Inside the lower receiver.
 13. All other components.

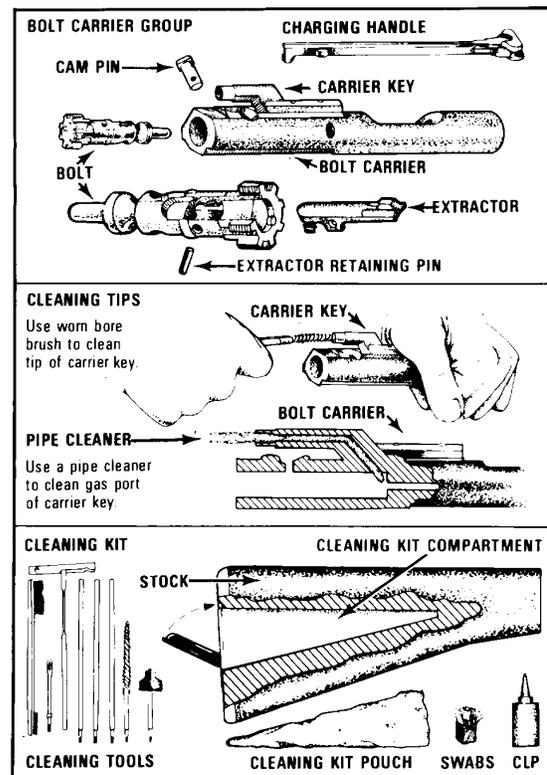


Figure 10-22. Cleaning the Bolt Carrier Group

4. **Inspect Disassembled Rifle Bolt Assembly** (figure 10-23).
 - a. Identify defective or missing components.
 - b. Report deficiencies to the armorer.

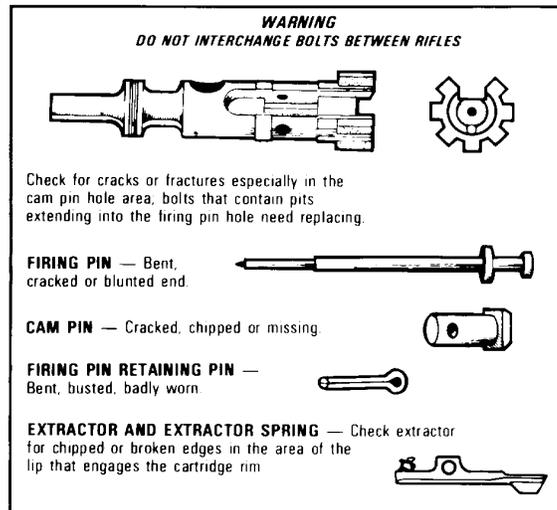


Figure 10-23. Inspecting the Bolt Assembly

5. **Assemble the Rifle.**
 - a. Insert the spring and buffer (figure 10-24).

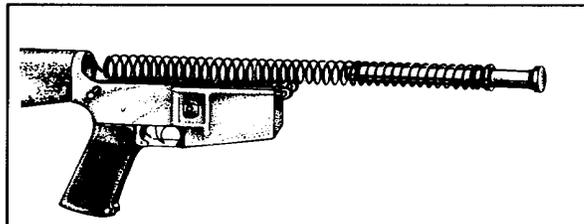


Figure 10-24. Placing the Spring and Buffer

- b. Insert the extractor and spring (figure 10-25).

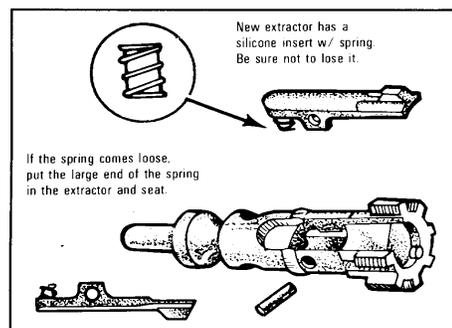


Figure 10-25. Placing the Extractor and Spring

- c. Push the extractor pin in (figure 10-26).

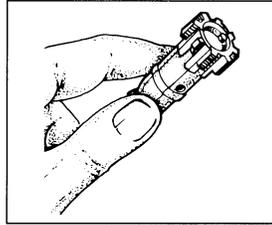


Figure 10-26. Holding the Extractor Pin in

- d. Slide the bolt into the carrier until the bolt cam pin hole in both the bolt carrier and the bolt are aligned (figure 10-27).

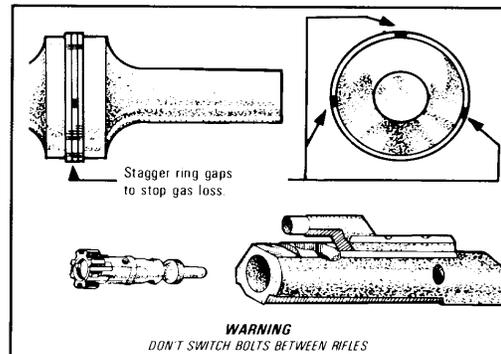


Figure 10-27. Placing the bolt in the carrier

- e. Place the bolt cam pin by putting it in the bolt carrier turning it one-quarter turn (figure 10-28).
- f. Drop in the firing pin to seat it (figure 10-29).

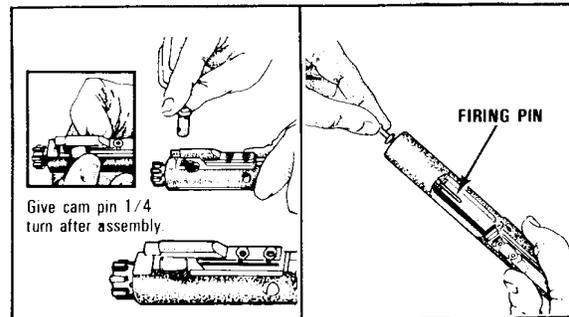


Figure 10-28. Replacing the Bolt Cam Pin

Figure 10-29. Placing the Firing Pin

- g. Put the firing pin retaining pin in the bolt carrier to seat it (figure 10-30).
- h. Pull the bolt back (figure 10-31).

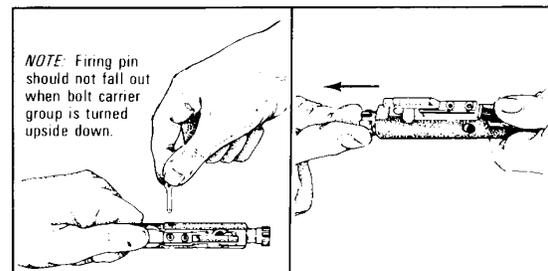


Figure 10-30. Placing the Firing Pin Retaining Pin

Figure 10-31. Pulling Back on the Bolt

- i. Place the charging handle by engaging it, then pushing the charging handle part of the way in (figure 10-32).
- j. Slide the bolt carrier into the upper receiver (figure 10-33).

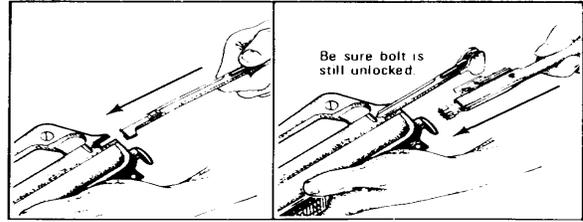


Figure 10-32. Placing the Charging Handle in the Receiver

Figure 10-33. Placing the Bolt Carrier

- k. Push the charging handle and bolt carrier together in the upper receiver (figure 5-62).
- l. Join the upper and lower receiver (figure 5-63).

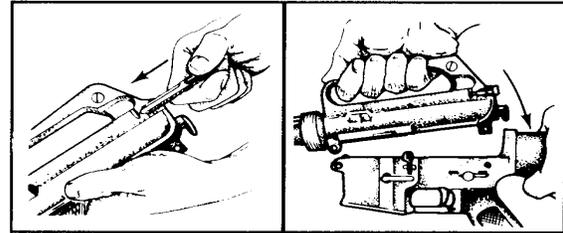


Figure 10-34. Placing the Charging Handle and the Bolt Carrier

Figure 10-35. Seating the Takedown Pin

- m. Engage the receiver pivot pin (figure 10-36).

CAUTION: The Selector Lever Must Be On Safe Before Closing The Upper Receiver.

- n. Close the upper and lower receiver groups, seating the takedown pin, and ensuring the selector switch is on safe (figure 10-37).

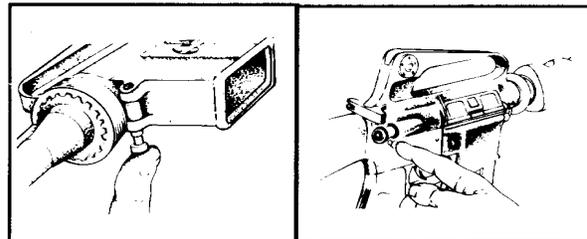


Figure 10-36. Engaging the Receiver Pivot Pin

Figure 10-37. Seating the Takedown Pin

- o. Put the hand guards in place (figure 10-38).

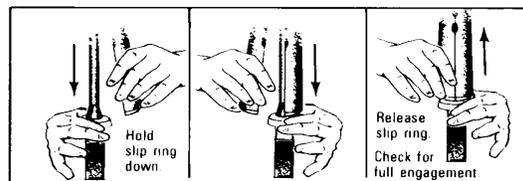


Figure 10-38. Placing the Hand Guards

- p. Replace the sling (figure 10-39).

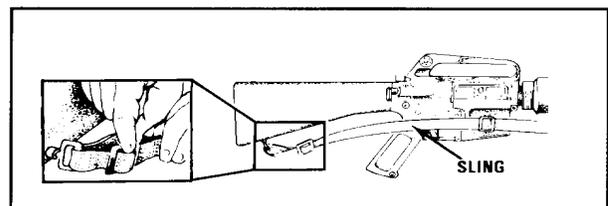


Figure 10-39. Placing the Sling

6. **Disassemble the magazine** without removing the follower from the spring.
 - a. Release the base catch (figure 5-68).

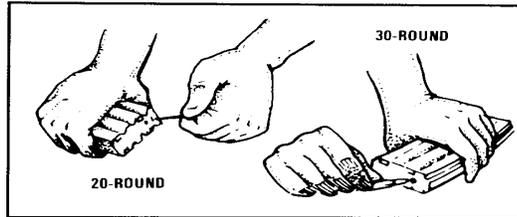


Figure 5-68. Releasing the Base Catch of the Magazine

- b. Remove the base (figure 5-69).

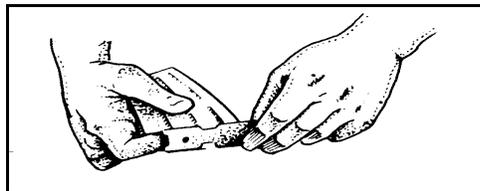


Figure 5-69. Removing the Base of the Magazine

- c. Remove the spring and follower by jiggling spring and follower (figure 5-70).

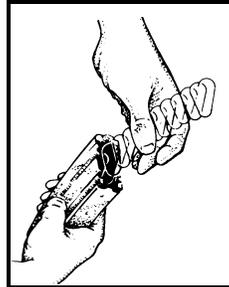


Figure 5-70. Removing the Magazine Spring and the Follower

7. **Clean the magazine.**
 - a. Wipe the dirt from the tube, spring and follower.
 - b. Lubricate the spring lightly.
8. **Assemble the magazine.**
 - a. Jiggle the spring and follower together to install them in the magazine.
 - b. Slide the base under all four tabs, making sure that the print is on the outside.
9. **Clean the ammunition** using a clean, dry cloth to wipe dirt and foreign matter from the ammunition. Do not coat with oil.

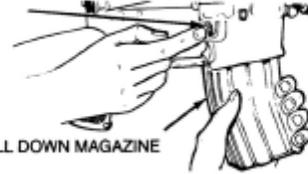
Clear an M16A2

1. Place the selector on SAFE. The weapon must be cocked to point the lever toward SAFE.



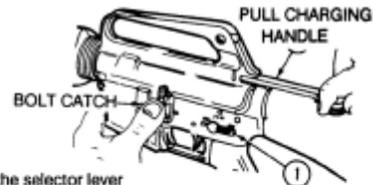
2. Remove the magazine.

PRESS THE CATCH BUTTON



PULL DOWN MAGAZINE

3. Lock the bolt open, pull the charging handle rearward and press the bottom of the bolt catch; allow the bolt to move forward until it engages the bolt catch. Return the charging handle forward. If you haven't already done so, place the weapon on SAFE.



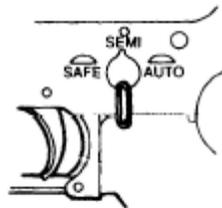
4. Visually inspect the receiver and the chamber areas for ammunition.



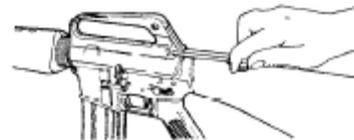
5. With the selector lever pointing toward SAFE allow the bolt to go forward by pressing the upper portion of the bolt catch.



6. Place the selector lever on SEMI and squeeze the trigger.



7. Pull the charging handle fully rearward and release it, allowing the bolt to return to the full forward position.



8. Place the selector lever on SAFE. (See step 1.)

9. Close the ejection port cover.



Perform a Functions Check on M16A2

Note: Weapon must be cleared before a functions check may be performed

1. Place the selector lever on SAFE. Squeeze the trigger. Hammer should not fall.
2. Rotate the selector lever to SEMI. Squeeze the trigger and hold. Hammer should fall. While holding the trigger to the rear, pull the charging handle to the rear and release. Release the trigger and pull it to the rear again. The hammer should fall.
3. Place the selector lever on BURST. Pull the charging handle to the rear and release. Pull the trigger and hold. The Hammer should fall. While holding the trigger down, pul the charging handle to the rear fully three times and release the trigger. The hammer should fall.
4. Return the weapon to SAFE.