



# OPERATOR'S MANUAL

FOR ALL ARMALITE® M15™ and AR-10® RIFLES



## READ THIS MANUAL FIRST!

Almost all customer problems are caused  
by failure to read and understand the  
information in this manual. *It's Important!*

## **STUDY THIS MANUAL CAREFULLY!**

This book provides instructions on the operation and maintenance of rifles from ArmaLite®. Read and understand it carefully before you try to use your rifle. Your safety, and that of those around you, depends on your knowledge of your rifle and on your knowledge of safety rules common to all firearms. Please study the common-sense safety rules noted in this manual. Your first responsibility as a gun owner is always safety!

Your second responsibility as a gun owner is security. Make sure that your rifle remains in responsible hands...YOURS! Don't become an unwitting partner in a crime or tragedy: make sure your rifle is properly secured. Lock it in a secure storage container or, if none is available, remove the Bolt Carrier Assembly and store it separately. If you don't know where to get a storage container at a reasonable price, contact ArmaLite® to obtain one.

ArmaLite® manufactures a variety of self-loading rifles, and is constantly seeking improvements. All share the same basic design and have the same controls. This manual includes portions of U.S. Army and Marine Corps documents illustrating proven operating and maintenance techniques. The information it contains is appropriate to all ArmaLite® rifles and carbines.

Instructions which refer to specific models will be clearly marked. The first section of this manual lists safety rules, including how to clear your rifle and render it safe. The next section explains its operation, and the section that follows discusses proper maintenance. The final section covers trouble-shooting problems.

### **NOTICE**

ArmaLite® has no control over the use of your rifle, and shall not be responsible for injury, death, or damage to property resulting from either intentional or accidental discharge of this firearm, or for its function when used for purposes or subjected to treatment for which it was not intended. ArmaLite® will not honor claims under the Limited Warranty which result from careless or improper handling, unauthorized adjustments or parts replacement, corrosion, neglect, use of the wrong type or caliber of ammunition, or the use of ammunition other than original, high quality commercially manufactured ammunition in good condition, or any combination thereof. ArmaLite® will not honor claims under the limited warranty for any reason or cause when such claims are made by second or subsequent owners.

**Contact ArmaLite® directly at (309)944-6939 with any questions, or to arrange to return a rifle for service.**

## **SAFETY FIRST! IT'S YOUR RESPONSIBILITY!**

### ACCIDENT (Ak'si dent) N

1. An unintentional or unexpected happening that is undesirable or unfortunate, esp. one resulting in injury, damage, harm or loss.

- \*\* Always keep the muzzle pointed in a safe direction.
- \* Never point your rifle at anything that you do not intend to shoot.
- \* Keep your fingers off the trigger and out of the trigger guard until you are aiming at your target and ready to shoot.
- \* Always keep the safety on the safe position, especially when the rifle is loaded and cocked, until you are ready to fire.
- \* Always keep and carry your rifle with an empty chamber until you intend to shoot, so that your rifle cannot be fired unintentionally. Firearms should be unloaded when not actually in use...
- \* ***But treat every gun as if it is loaded...AT ALL TIMES.***
- \* Be sure of your target and backstop before you shoot. Ask yourself what your bullet will hit if it misses or goes through the target.
- \* Never shoot at hard, flat surfaces or water...bullets can ricochet.
- \* Wear hearing protection when shooting.
- \* Discharging firearms in poorly ventilated areas, cleaning firearms, or handling ammunition may result in exposure to lead, a substance known to be associated with birth defects, reproductive harm, and other serious injury. Have adequate ventilation at all times and wash hands after handling.
- \* Be sure that your barrel is clear of obstructions, including excessive oil and grease, before shooting.
- \* Do not alter or modify your rifle.
- \* Do not try to change your rifle's trigger pull, because alterations of trigger pull usually affect sear engagement and might cause accidental firing.
- \* Store guns and ammunition separately, and beyond children's reach.

**IN CASE OF MALFUNCTION STOP. REVIEW THIS MANUAL TO FIND AND CLEAR THE PROBLEM. IF YOU CANNOT RESOLVE IT, CONTACT ARMALITE**

**KEEP THIS MANUAL WITH YOUR RIFLE. IF YOU SELL THE RIFLE, GIVE THIS MANUAL TO THE NEW OWNER.**

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***IF YOU KNOW NOTHING ELSE ABOUT YOUR RIFLE, YOU MUST KNOW HOW TO UNLOAD IT AND RENDER IT SAFE.***

**CLEARING YOUR RIFLE:**

Keep your rifle cleared when not in use.

**1. Place safety lever (1) on SAFE.**

NOTE: If the rifle is not cocked, the lever cannot be pointed toward SAFE.



**2. Remove the magazine (2) by depressing the magazine catch button (3) and pulling the magazine down.**



**3. Extract the cartridge (if any) from the chamber.** To lock the bolt open, pull the charging handle (4) rearward, press the bottom of the bolt catch (5), and allow the bolt to move forward until the bolt catch stops it. Return the charging handle forward.



**4. Look into the receiver and chamber (6) to ensure that these areas contain no ammunition.**

**CAUTION!**

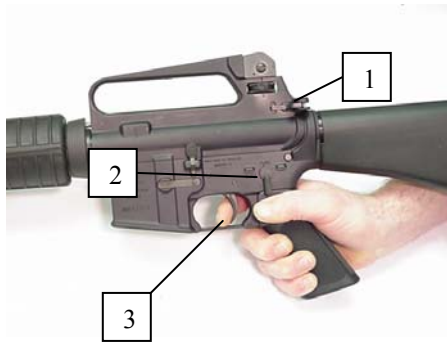
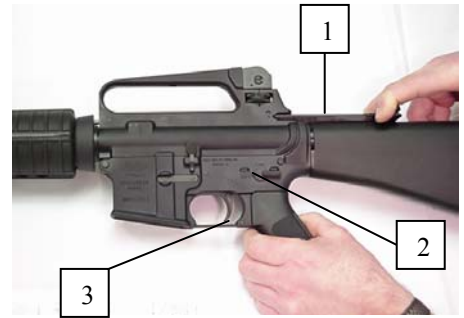
**DO NOT REVERSE THE STEPS IN CLEARING YOUR RIFLE. IF YOU CLEAR THE CHAMBER BEFORE REMOVING THE MAGAZINE, YOU MAY REMOVE ONE CARTRIDGE THEN IMMEDIATELY CHAMBER ANOTHER FROM THE MAGAZINE! THE RIFLE WILL STILL BE LOADED!**

## SAFETY CHECK

### WARNING

**Make sure that the magazine is removed and the chamber is clear.**

1. Pull the charging handle (1) to the rear and release it. Place the safety (2) on SAFE. Squeeze the trigger. *The trigger should not fall.*



2. Place the safety (2) on FIRE. Squeeze the trigger (3) and hold the trigger to the rear; *the hammer should fall.* Pull the charging handle (1) to the rear and release it. Release the trigger. *You should hear a click as you release the trigger.* Squeeze again; *the hammer should fall.*

**Call ArmaLite<sup>®</sup> at (309) 944-6939 if your rifle fails either test.**

## OPERATING PROCEDURES

### LOADING THE M-16 MAGAZINE

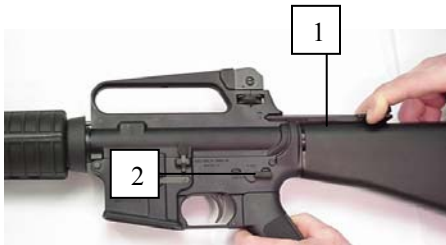
Set the cartridge on the follower, between the feed lips and pointing the same direction as the “bullet” on the follower, and press it straight down until it’s held by the lips of the magazine.

### LOADING THE AR-10<sup>®</sup> MAGAZINE

Insert the first round. To load the second round, press the plunger at the rear of the follower into its hole as you insert the round. Insert the remaining rounds just as you did the first one.

Take it easy with your magazines. Keep them clean, dry, and don’t pound them into the rifle. It looks great in the movies but is wrong. Insert them smoothly then check to assure they’re locked in the rifle by tugging downward.

**WARNING! Always point the muzzle in a safe direction.**



1. Pull the charging handle (1) rearward, lock the bolt, and release the charging handle. Place the safety (2) on SAFE. Check to see that the chamber is clear and the bore is not blocked.

2. Push upward on the magazine (3) until the magazine catch (4) engages and holds the magazine. Pull down on the magazine slightly to make sure that it is locked in place.



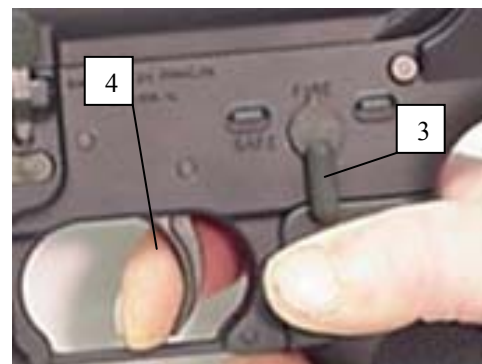
**TIGHT AR-10 MAGAZINE:** The cartridges in a fully loaded magazine can be packed tight. If loading the magazine or inserting it into the rifle are hard or if rifle operation is sluggish, load the magazine with 1 less round or insert the magazine into the rifle with the bolt open.

**CHAMBERING AND FIRING A ROUND, STARTING WITH THE BOLT OPEN**



1. Depress the upper portion of the bolt catch (1) to release the bolt.

2. With the rifle pointed in a safe direction, move the safety (3) to FIRE.
3. Squeeze the trigger (4) and fire.



**CHAMBERING AND FIRING A ROUND, STARTING WITH THE BOLT CLOSED**



1. Insert magazine (3) until magazine catch (4) engages. Pull down slightly to assure proper seating. NEVER tap or pound the magazine into the receiver.

2. Pull the charging handle **all** the way back.



3. Release the charging handle. If the bolt carrier doesn't fully close, tap the forward assist (5) (M-15 only) to close it. If it still won't close, clear the rifle and correct the problem.

4. Never "ride" the charging handle. Let it slide forward at full speed.



5. Set the safety to FIRE, grip the rifle firmly, and squeeze the trigger (4). **Note:** Gripping the rifle loosely when firing can cause the shooter to fire two shots (the second as the trigger strikes the shooter's trigger finger during counter-recoil.) This is a shooter error, not a rifle malfunction.

**Keep the safety on SAFE until you are ready to shoot. Unload and clear your rifle before leaving the firing position.**

**CAUTION!**  
**DO NOT REVERSE THE STEPS IN CLEARING YOUR RIFLE. IF YOU CLEAR THE CHAMBER BEFORE REMOVING THE MAGAZINE, YOU MAY REMOVE ONE CARTRIDGE THEN IMMEDIATELY CHAMBER ANOTHER FROM THE MAGAZINE! THE RIFLE WILL STILL BE LOADED!**



## ZEROING THE SIGHTS



Because every shooter sees the sights differently, two shooters may have a different zero on the same rifle.

1. Rotate the elevation knob down (counter clockwise) until either the lowest digit on the elevation knob is aligned with index line above the knob and sight in at the shortest range to be fired (0 to 20 marked match rifle scale) or set the elevation knob to the distance to be fired, i.e. "2" for 200 yards.
2. Carefully aim and fire at the center of the target. Fire at least a three shot group, and locate the center of the group.
3. If your shot group is not in the center of the target, adjust the rear sight to move the next group. Turning the windage knob clockwise moves the impact RIGHT. Turning the windage knob counter-clockwise moves the impact LEFT. Turning the front sight clockwise (viewed from above) RAISES the impact. Turning the front sight counter-clockwise (viewed from above) LOWERS the impact.
4. Repeat steps 2 and 3 until the group is centered on the target.
5. ArmaLite<sup>®</sup> places numbers on both the windage and the elevation knob so that you can record your zero for future reference.

### APPROXIMATE IMPACT SHIFT PER CLICK OF ADJUSTMENT:

#### Rear sight adjustments:

Windage; one click will move the shot group approximately  $\frac{1}{2}$  inch at 100 yards.

Elevation; one click will move the shot group approximately  $\frac{1}{2}$  inch at 100 yards.

*(One windage click the National Match sight moves the group  $\frac{1}{4}$  inch at 100 yards.)*

#### Front sight adjustments:

The front sight adjustment is approximately 1 inch in elevation per click. Moving the sight in the direction "up" will raise the shot group.

ArmaLite makes a number of different sights for different uses:  
DIFFERENCES IN SIGHTS

#### Front Sights:

- A. Standard rifles are equipped with square front sight posts.
- B. National Match rifles are equipped with narrow blade front sight posts. The wide face of the blade must face the shooter. The blade must be adjusted in full turns or the top of the sight will be backwards or slanted to one side.

#### Rear Sights:

- A. Standard, GI grade. The smaller aperture generally has a curved surface facing the shooter.
- B. Match sights generally have the apertures reversed at the factory so a flat surface is always presented to the eye to reduce reflection.
- C. Elevation indexes are either marked 0 to 20 to count clicks (match sights) or with digits reflecting range in 100 yard increments (standard sights).

### THE NATIONAL MATCH TRIGGER

ArmaLite's National Match trigger is designed to aid accuracy by reducing the distraction of the long, heavy, irregular trigger pull of the standard trigger mechanism.

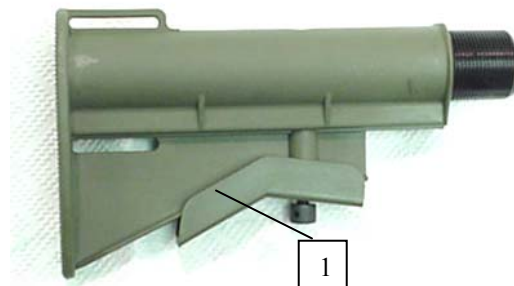
The National Match trigger is a two-stage trigger with distinct characteristics: a first stage, which is relatively light, and a second stage of heavier resistance. Microscopic variations in the surface of the parts may cause a feeling of grittiness in the first stage. This is normal on factory-made parts, and will not affect the release of the shot. A properly adjusted second stage will not be creepy, and is the key to a successful mechanism.

The ArmaLite® two stage match trigger is based on that of M1/M14 rifle, and is not user adjustable. It is intentionally built with a barely detectable creep in the second stage. As the trigger breaks in with use (200 to 500 rounds) the creep tends to disappear. It is not possible to exactly predict the amount of break-in of a new trigger, so it is impossible to produce a fixed device that will always break in to produce a perfect trigger pull. If creep remains, a trained gunsmith using the same techniques used with the M1/M14 trigger system may adjust the trigger. ArmaLite® technicians will adjust the triggers for a nominal fee. Instructions will be provided to licensed gunsmiths upon request. Match triggers require more attention and tuning than standard triggers.

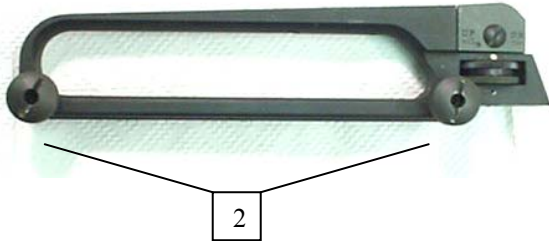
ArmaLite® absolutely cannot condone modification of the ArmaLite® trigger mechanism by anyone other than a trained gunsmith. Any such modification may render the device unsafe and will void the 1-year factory warranty.

### ADJUSTING THE COLLAPSIBLE BUTTSTOCK

To extend the collapsible buttstock, depress lever (1) and pull the stock out until it locks into position. To collapse



the buttstock depress the lever again and push forward until it locks into position.



#### REMOVABLE SIGHTS OR SCOPE MOUNT:

To install removable carrying handle, front sight, or scope mount, loosen the knobs (2) to give maximum clearance to the bar. Slip the base over the receiver or gas block, and tighten down until firm. Reverse to remove.

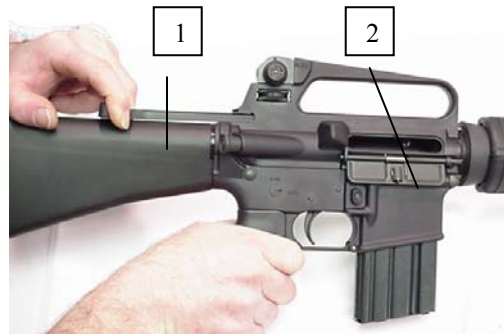
#### CENTERING THE REAR SIGHT

The removable carrying handle is designed as a backup sight. Manufacturing tolerances may result in the rear sight being well off center when zeroed unless the clamping front sight is properly adjusted. Pinned front sights are not adjustable for windage.

### MAINTENANCE PROCEDURES: FIELD STRIPPING

#### CLEAR THE RIFLE

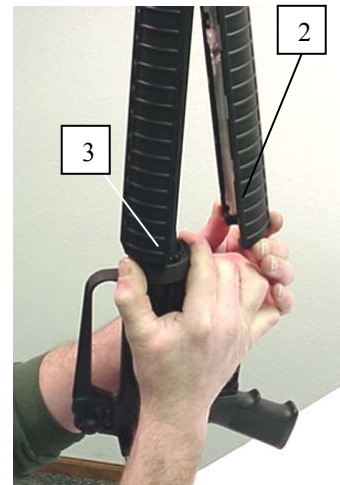
**IMPORTANT:** Put the safety on SAFE. Remove the magazine, THEN pull back the charging handle (1) and check the chamber.



SLING  
Remove the sling (1).

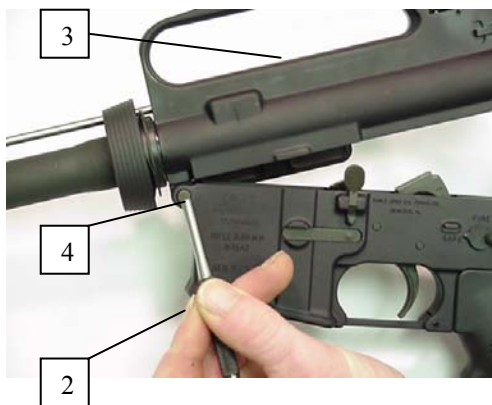
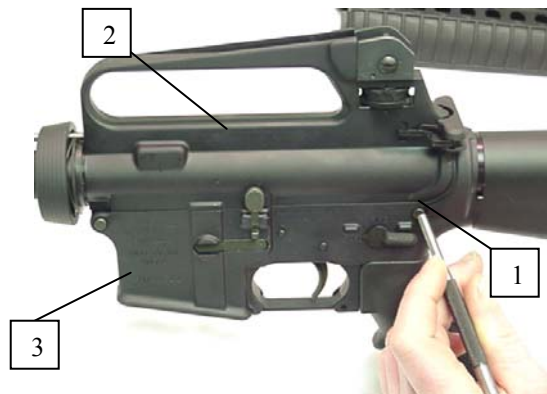
## 2 PIECE HAND GUARDS – THE “BUDDY SYSTEM”

1. Stand the rifle on its buttstock with one hand gripping the stock and the other gripping the lower end of the hand guard (2).
2. While your buddy presses down on the slip ring (3), which is a two-hand job, pull the hand guard free.
3. Repeat this procedure to remove the other hand guard.



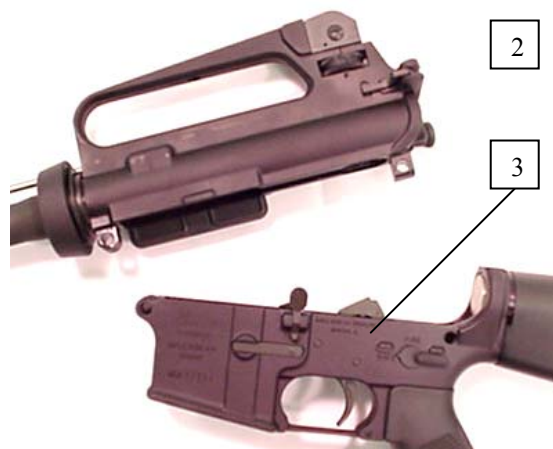
## UPPER AND LOWER RECEIVERS

1. Push the takedown pin (1) as far as it will go. **Caution:** Excess force can severely damage the receiver. Take it easy!

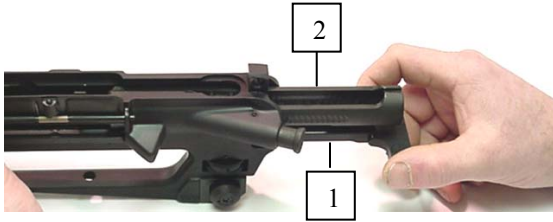


2. Pivot the upper receiver (2) from the lower receiver (3).
3. Push the receiver pivot pin (4) as far as it will go. Take it easy! **Caution:** Excess force could destroy or damage the receiver!

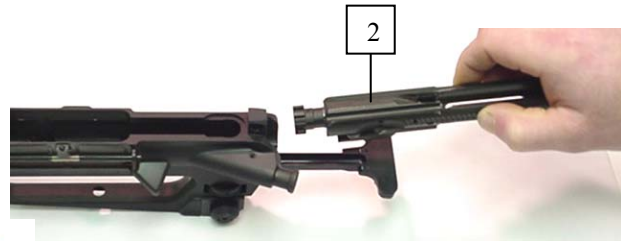
4. Separate the upper and lower receivers.



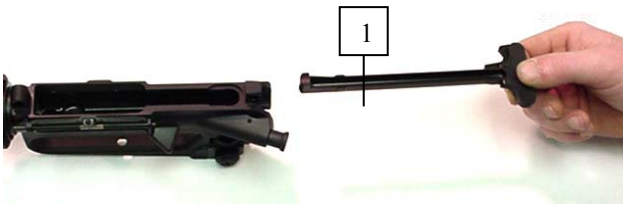
## CHARGING HANDLE AND BOLT CARRIER ASSEMBLY



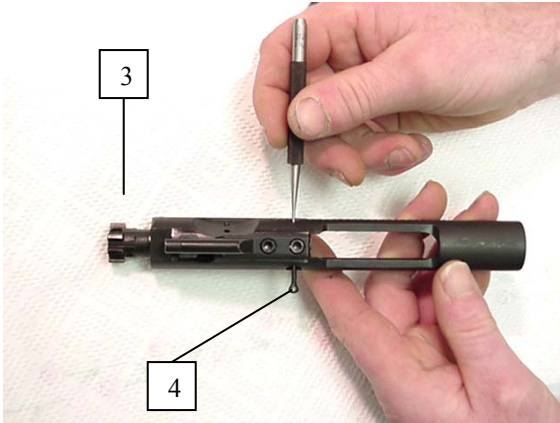
1. Pull back the charging handle (1) and bolt carrier assembly (2).



2. Remove the bolt carrier assembly (2).



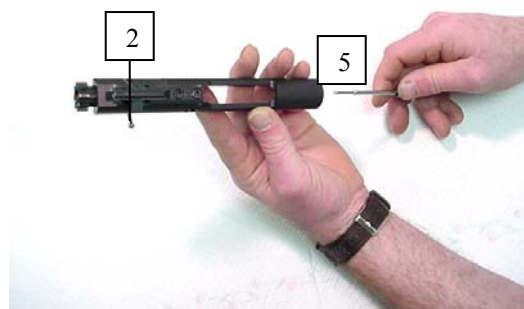
3. Pull the charging handle (1) back and down to remove it.



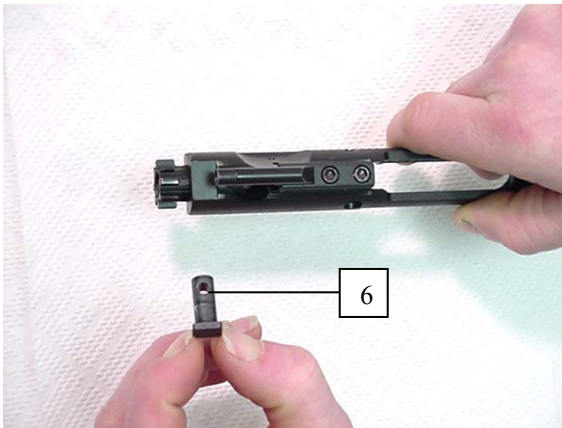
4. Move the bolt assembly (3) forward to the unlocked position and remove the firing pin retaining pin (4). Do not open or close the split end of the firing pin retaining pin.



5. Push in on the bolt assembly (3) to put it in the locked position.



6. Catch the firing pin (5) as it drops out of the rear of the bolt carrier assembly (2). DO NOT REMOVE THE AR-10 FIRING PIN SPRING FROM THE AR-10® THE FIRING PIN. (The M-15 does not have a firing pin spring.)



7. Give the bolt cam pin (6) a ¼ turn and lift it out.

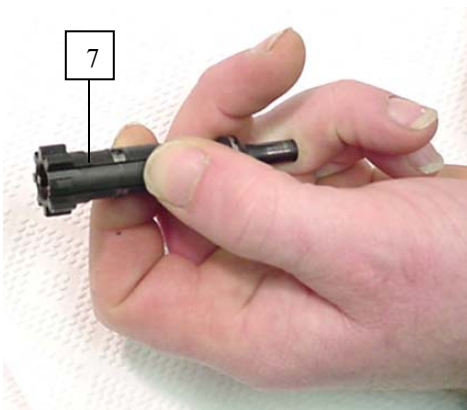
**NOTE:**  
**THE AR-10® CAM PIN**  
**NEED NOT BE TURNED**

8. Remove the bolt assembly (3) from the bolt carrier assembly.



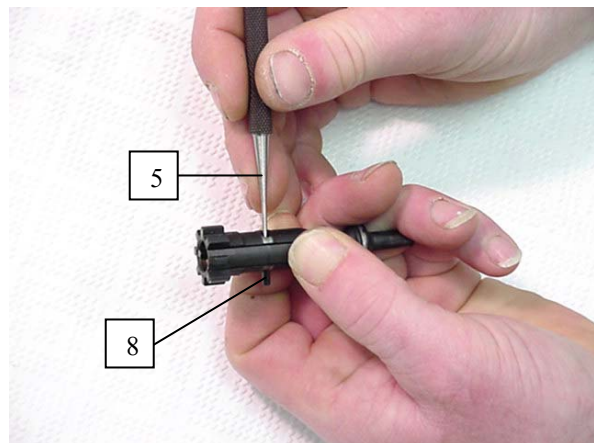
**NOTE**

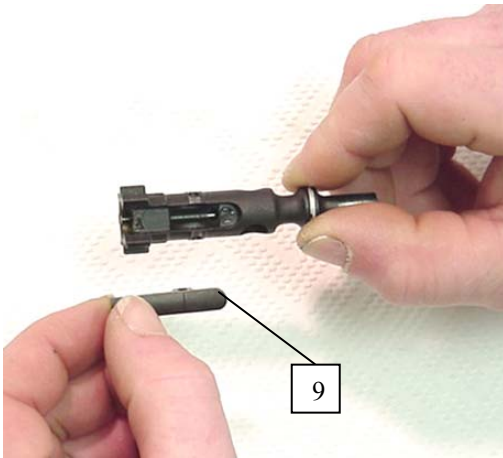
Do not disassemble the extractor and spring assembly.



9. Press the rear of the extractor (7) to check that the spring works.

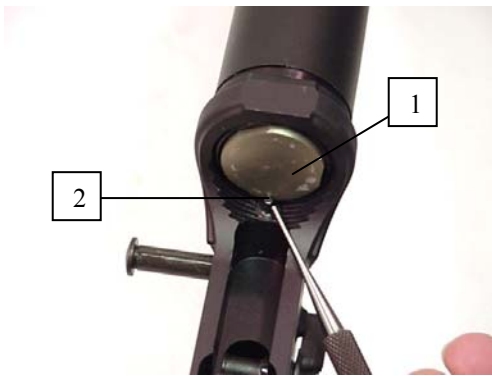
10. Use a dummy round (5) to remove the extractor pin (8).





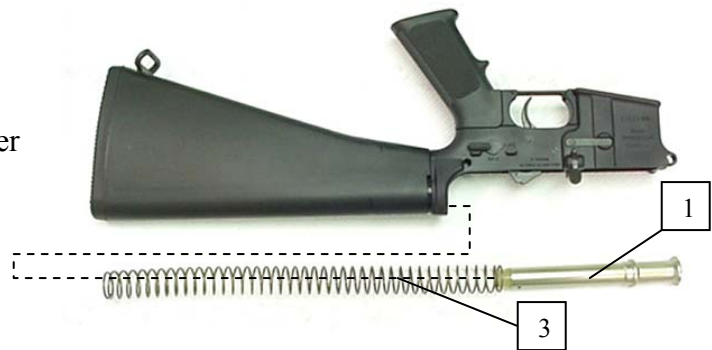
11. Remove the extractor and spring assembly (9). Do not remove the spring assembly, its insert or the O-ring from the extractor.

### LOWER RECEIVER ASSEMBLY



1. Cock the hammer with your thumb. Push in the buffer (1) and depress the retainer (2) to release the buffer.

3. Remove the buffer (1) and the buffer spring (3).



**NO FURTHER DISASSEMBLY IS REQUIRED.**

# MAINTENANCE PROCEDURES: CLEANING

## CLEANING SOLVENTS AND LUBRICANTS

The military Services generally use a multipurpose chemical called CLP (cleaner, lubricant, and preservative) sold commercially as “Break Free.” Although it is useful if nothing else is available, armament engineers prefer individual, specialized products. A combination of military RBC (rifle bore cleaner) and LSA (lubricant, semifluid, automatic weapons) is superior. High quality cleaning solvent like Hoppe’s no. 9 removes metal fouling from the bore excellently, and Teflon bearing lubricants, such as Bore Cote, are outstanding lubricants.

Under NO conditions should any lubricant containing graphite be used with your rifle. Graphite can encourage rapid corrosion to the aircraft-grade aluminum used in your rifle.

In addition to cleaning solvents and lubricants, the basic cleaning equipment you will need includes a cleaning rod, brass bore brush, chamber brush, toothbrush, patches, pipe cleaners, and the most important item: a lint-free cloth. ArmaLite® recommends a pull-through cleaning cable for efficient, breech-to-muzzle cleaning.

## UPPER RECEIVER AND BARREL ASSEMBLY

### NOTE

Don’t reverse the direction of the bore brush while it’s in the bore.

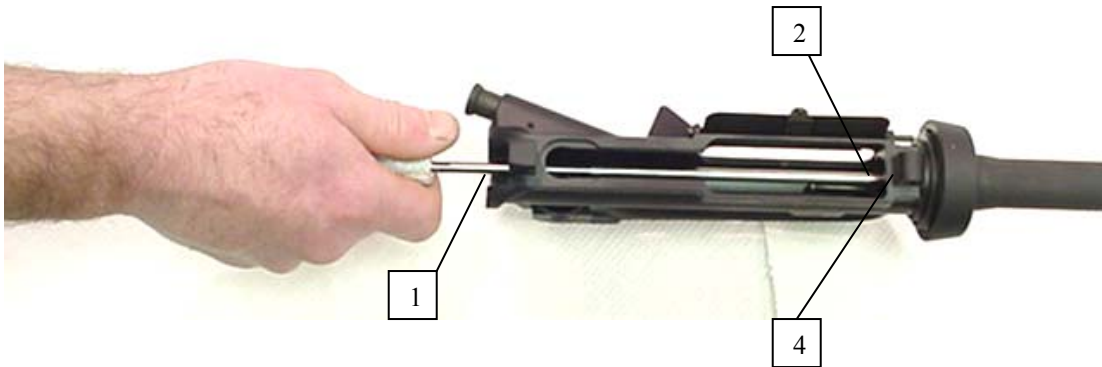


Use cleaning solvent on the bore and chamber, the gas tube, the upper receiver and barrel assembly, locking lugs and all areas of powder fouling, corrosion, dirt or dust.

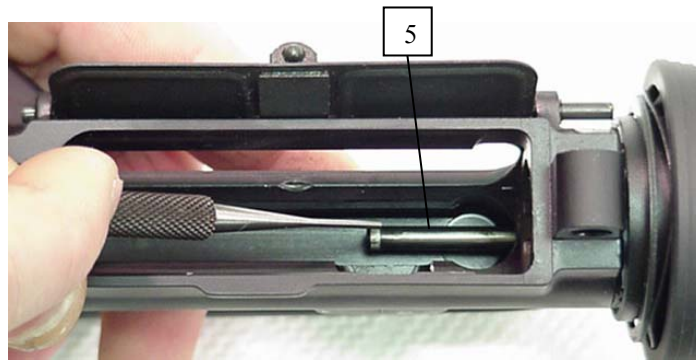


Use a cleaning rod, bore brush and cleaning solvent. Run the rod (1) through the chamber (2) and flash suppressor (if applicable) several times. The recoil check (if present) (3) is not removable.





3. Install the chamber brush on the cleaning rod (1), dip it in cleaning solvent, and insert it into the chamber (2) and locking lugs (4). Clean by pushing and twisting the cleaning rod.



3. Use a worn out bore brush to clean the outside surface of the protruding gas tube (5) (get the sides and bottom from the bottom of the upper receiver). This procedure ruins the brush.

**NOTE**

Gas tubes will discolor from heat. Do not try to remove this discoloration.

Do not try to clean the inside of the gas tube. It is not needed with good quality propellant, or effective with bad propellant.

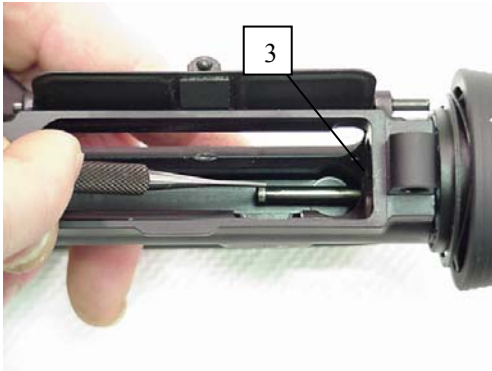


4. Take the bore brush off the rod (1) and install a swab holder and a swab. Apply cleaning solvent to the swab, then run it through the chamber (2) and out the flash suppressor (if applicable) (3). To remove carbon build up, let the solvent sit, then wipe clean. A bore brush may be used with care to remove heavy carbon buildup. Wipe the bore dry by running clean swabs all the way through from the chamber to the flash suppressor. REMEMBER, do not change directions in the bore.

Inspect the barrel (1), gas tube (2), and hand guards for cracks, bends, or breaks. Be sure the barrel has no obstructions.

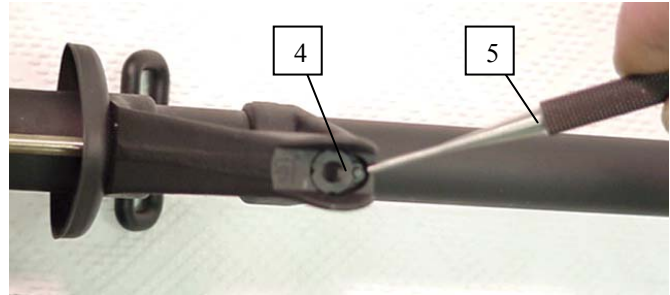


1. Lightly lubricate the bore and chamber, outer surface of the barrel and front sight, and the surfaces under the handguards.
2. With a lubricated swab, run the rod from the receiver to the flash suppressor (if applicable). Do not over lubricate.

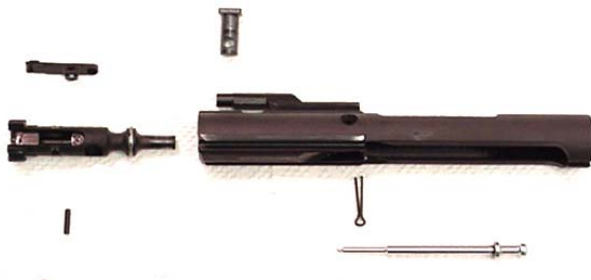


3. Lubricate the locking lugs.

4. Drip lubricant on the front sight detent, then depress the detent to work the lubricant in.

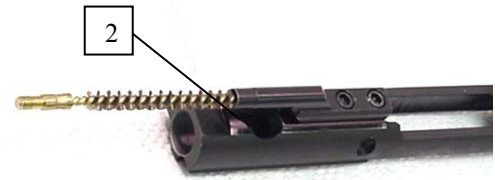


### CHARGING HANDLE AND BOLT CARRIER ASSEMBLY



1. Clean all parts and outer surfaces of the bolt carrier assembly with a swab saturated with cleaning solvent.

2. Clean the bolt carrier key (2) with a worn bore brush dipped in solvent and dry with a pipe cleaner.



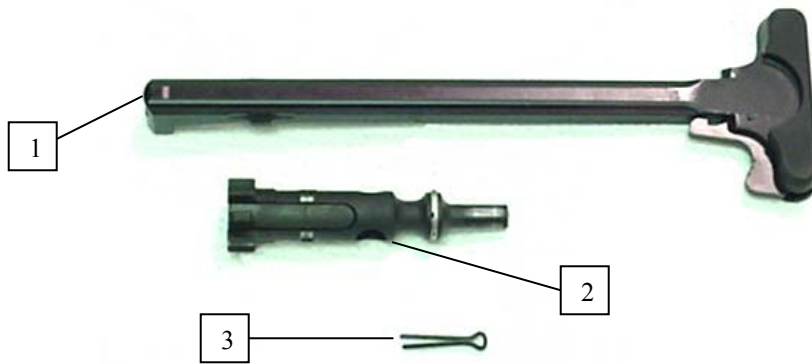
3. Remove carbon deposits and dirt from the locking lugs (3) with a bore brush dipped in solvent.



4. Clean the areas behind the bolt rings (4) and under the lip if the extractor (5).



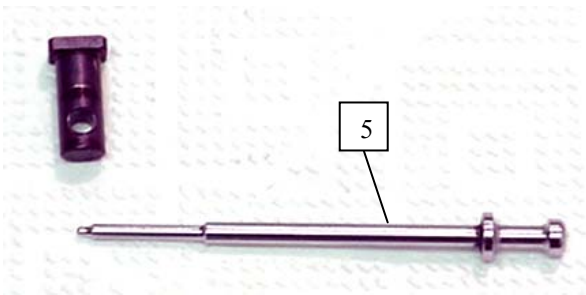
5. Press the ejector in repeatedly to remove accumulated brass shavings from the ejector hole and assure the ejector moves freely. Lubricate it generously.



1. Inspect the charging handle (1) for cracks, bends or breaks.
2. Inspect the bolt assembly (2) for cracks or fractures, especially in the cam pin hole area.

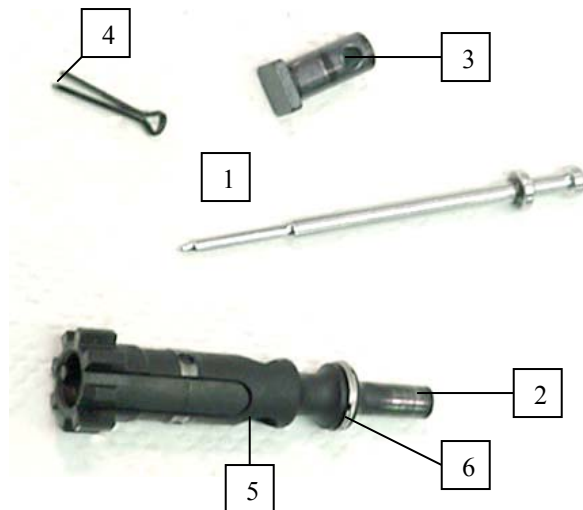
**DO NOT interchange bolts between rifles.**

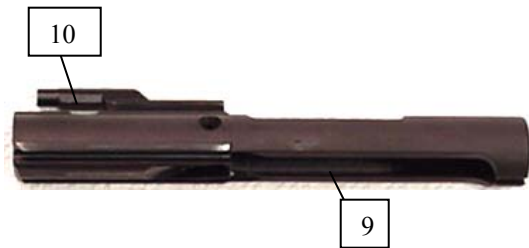
3. Inspect the firing pin retaining pin (3) for bends, breaks, or dents.



4. Inspect the bolt cam pin (4) for cracks or chips. AR-10 only: Assure that the firing pin spring (not shown) is installed with its tight end in the firing pin's groove.
5. Inspect the firing pin (5) for bends, cracks, or a sharp, chipped, or blunted tip.

1. Lightly lubricate the firing pin (1) and firing pin recess (2) in the bolt assembly.
2. Generously lubricate the outside of the bolt cam pin (3) and the firing pin retaining pin (4). Make certain to lubricate the bolt cam pin hole (5), bolt rings (6), and outside of the bolt.





4. Lightly lubricate the inner and outer surfaces of the bolt carrier (8). Generously lubricate the slide (9) and the cam pin area (10) of the bolt carrier.

5. Lightly lubricate the charging handle (11).



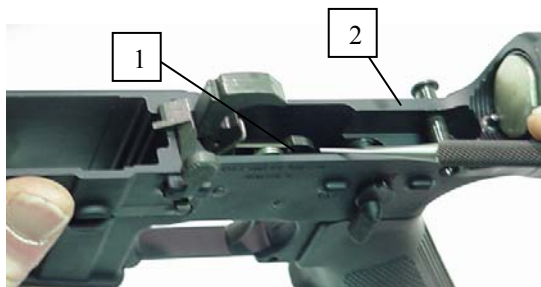
3. Dry the key of the bolt carrier assembly (8) with a pipe cleaner. Place one drop of lubricant inside the key.

Note: Carbon in the groove at the bottom of the gas cylinder in the carrier cannot accumulate enough to become a problem. Efforts to remove it cause more damage than leaving it. Avoid the instinct to over clean your rifle.

## LOWER RECEIVER ASSEMBLY

### CAUTION

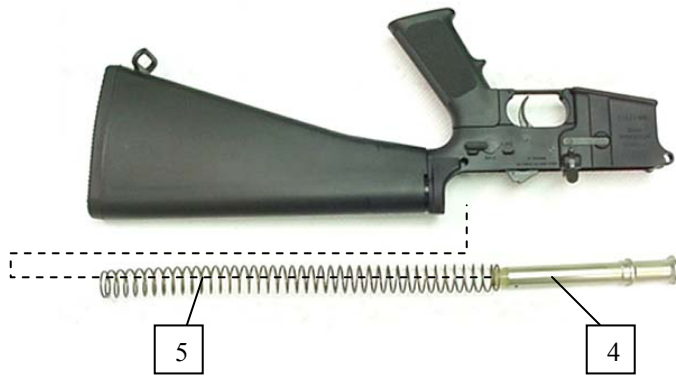
Do not use a wire brush or any type of abrasive material to clean aluminum surfaces



1. Wipe dirt from the trigger with a swab.  
2. Use a swab and cleaning brush to clean powder fowling, corrosion, and dirt from the lower receiver. (2).

3. Use a pipe cleaner to clean the buttstock screw vent hole.

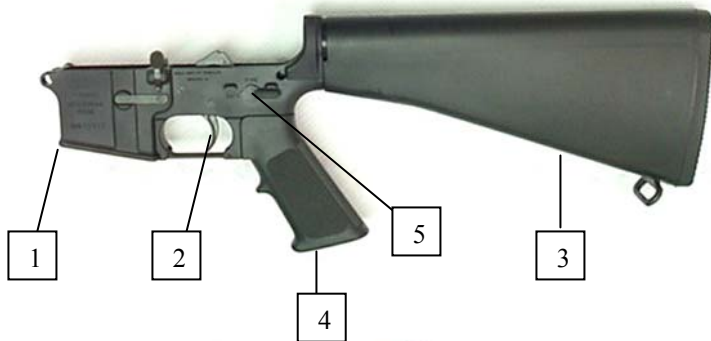




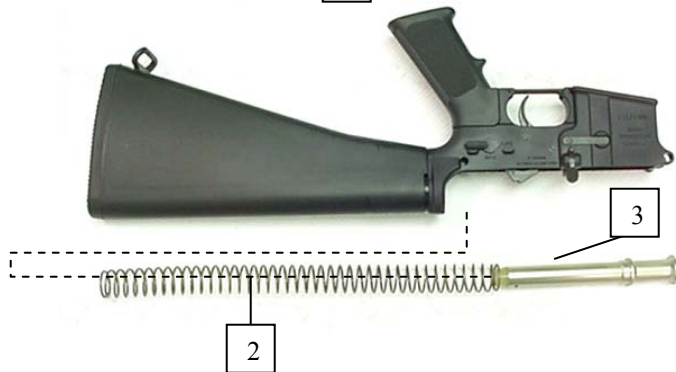
4. Clean the buffer (4), recoil spring (5), and inside lower receiver with a swab dipped in solvent.

## MAINTENANCE PROCEDURES: CLEANING AND INSPECTION

### LOWER RECEIVER ASSEMBLY (CONTINUED)

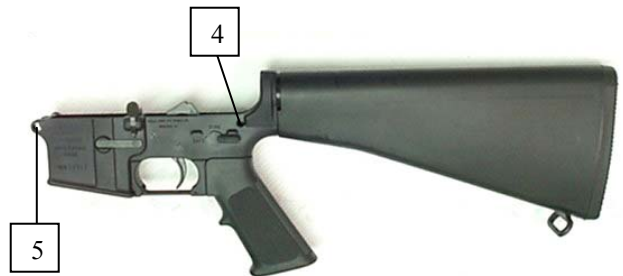


Examine the lower receiver assembly for a broken or bent trigger (2) buttstock (3), corroded or deformed lower receiver (1), cracked or damaged grip (4), and bent or damaged safety (5). Look at the inside parts for cracks, dents, or breaks.



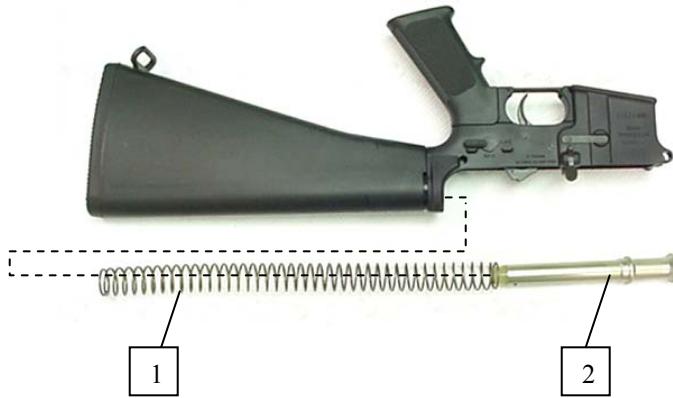
1. Lightly lubricate the recoil spring (2) and buffer (3).

2. Generously lubricate the takedown (4) and pivot pins (5) and the inside parts of the lower receiver assembly.



## REASSEMBLY

### LOWER RECEIVER ASSEMBLY



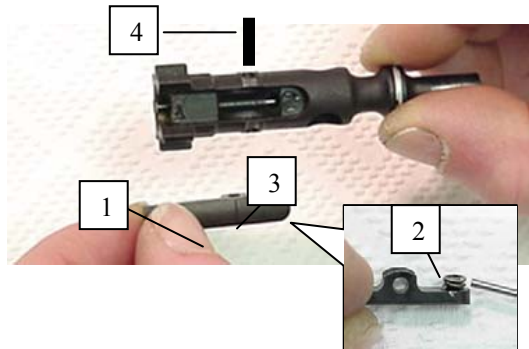
Insert buffer spring (1) and buffer (2).

### CHARGING HANDLE AND BOLT CARRIER

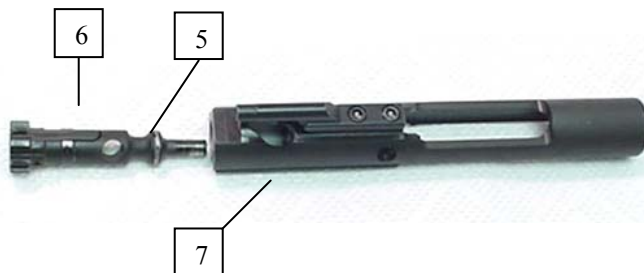
#### NOTE

The extractor has a silicone insert (2) in the spring. Don't lose it.

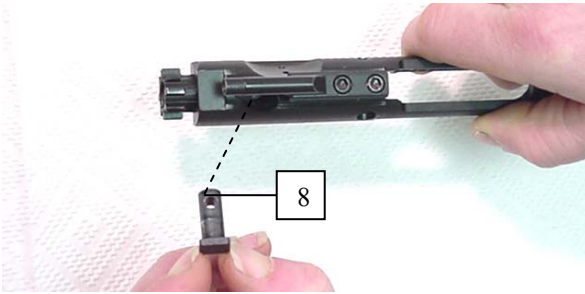
1. If the spring comes loose, seat the large end of the spring in the extractor. Assure the reinforcement ring is around the spring.
2. Insert the extractor (1) with spring assembly into bolt.
3. Push extractor until the holes on the extractor (3) and bolt are aligned and insert the extractor pin (4).



4. If a three-piece gas ring system is used, stagger the gaps in the gas rings (5) to prevent gas loss.



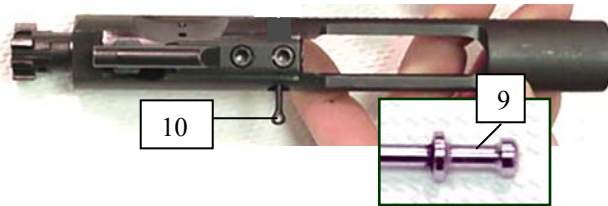
5. Slide the bolt assembly (6) into the bolt carrier (7) *only far enough to insert the cam pin.*



6. Insert the bolt cam pin (8) and give it a ¼ turn.

**NOTE:  
THE AR-10® CAM PIN IS  
NOT TURNED WHEN  
INSTALLING**

7. Drop the firing pin (9) into its opening. (AR-10: verify that the tight end of the firing pin spring engages the groove on the firing pin.)



8. Pull the bolt assembly forward and insert the firing pin retaining pin (10) in the area behind the large flange of the firing pin (9). (Push the AR-10 firing pin to verify the spring returns.)

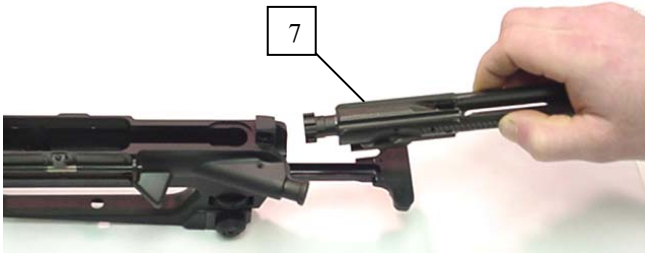


9. Turn the bolt carrier assembly up and try to shake out the firing pin. The firing pin must not fall out.

10. Place the charging handle into the upper receiver and engage the handle's lugs with the track in the receiver, then push the charging handle (11) part way into the upper receiver.

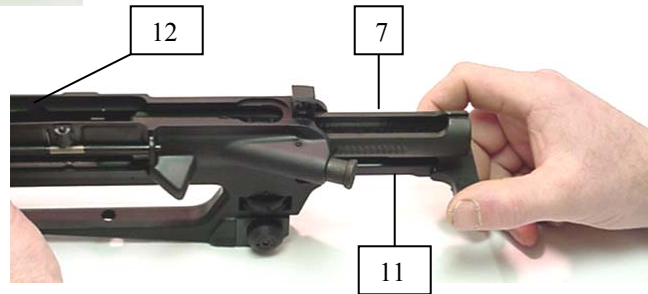






11. Slide the bolt carrier assembly (7), bolt extended, into the upper receiver.

12. Push the charging handle assembly (11) and bolt carrier assembly (7) together into the upper receiver (12).



## UPPER AND LOWER RECEIVERS

### NOTE

The hammer must be in cocked position to join receivers.

1. Join the upper and lower receivers.
2. Align the pivot pin holes with the pivot pin and push the pivot pin (3) in.





**CAUTION**

Close the ejection port cover (5) before the receivers are joined to prevent damage to the cover.

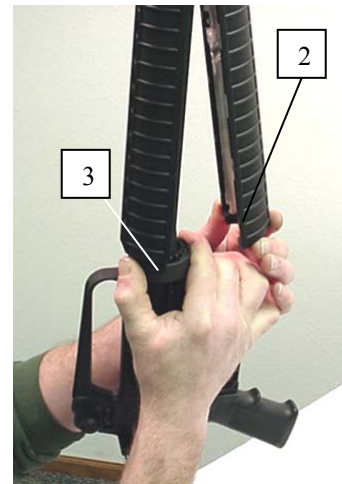
4. Close the upper and lower receivers. Push in the takedown pin (6).

**NOTE**

Normal forging and manufacturing variations may result in slight overhang or play. This will not affect function or accuracy.

**HANDGUARDS AND SLING – THE BUDDY SYSTEM**

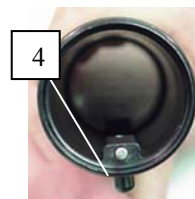
1. Place the weapon on its buttstock with one hand gripping the stock. Insert one handguard into the hand guard cap (2)
2. Have your buddy press down on the slip ring (3).
3. Install one handguard.
4. Repeat these steps to install the second handguard.



**TUBULAR HANDGUARDS**

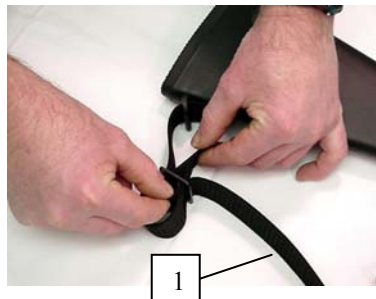
1. Slide the tubular handguard over the muzzle
2. Line up the handguard with the lock ring so it is in the desired position.
3. Rotate the lock ring clockwise to tighten.

**WARNING:** Excessive force may loosen the barrel nut or deform the gas tube.



and gas housing. that the sling stud (4)

5. Attach the sling



(1).

## TROUBLE SHOOTING

<b>PROBLEM</b>	<b>CHECK FOR</b>	<b>WHAT TO DO</b>
WON'T FIRE	Selector lever on SAFE. Improper assembly of firing pin.	Put it on FIRE. Assembly correctly. NOTE: the pin. retaining pin goes in back or large shoulder of firing pin.
	Oil or fouling in bolt .	Clean with pipe cleaner.
	Defective ammunition.	Remove and discard.
	Too much carbon on firing pin Or firing pin recess.	Clean.
BOLT WON'T LOCK.	Dirty bolt.	Clean.
	Burred or broken bolt.	Contact ArmaLite.
WON'T EXTRACT.	Broken extractor spring.	Replace.
	Silicone insert or reinforcement ring Missing from extractor spring.	Replace.
	Dirty, corroded, or reloaded ammunition.	Remove and discard.
	Carbon in chamber.	Clean chamber.
	Frozen or worn extractor.	Remove and clean.
	Restricted buffer assembly.	Remove and clean.
	Restricted movement of bolt carrier assembly.	Remove, clean and lubricate.
	Clogged gas tube.	Replace.
Short recoil.	See below.	

## TROUBLESHOOTING (CONTINUED)

<b>PROBLEM</b>	<b>CHECK FOR</b>	<b>WHAT TO DO</b>
WON'T FEED.	Dirty, corroded, or reloaded ammunition.	Remove and discard.
	Dirty or defective magazine.	Clean or replace.
	Too many rounds in magazine.	Remove excess rounds.
	Buffer assembly is restricted.	Take out and clean buffer and spring.
	Magazine not fully seated.	Adjust magazine catch: Press button on right side, and turn catch on left. Clockwise tightens.
	Short recoil.	See below.
DOUBLE FEED	Defective magazine.	Replace.
WON'T CHAMBER.	Dirty corroded or defective ammunition.	Remove and discard.
	Carbon in carrier key or chamber.	Clean.
WON'T LOCK	Dirt, corrosion, or carbon buildup in barrel locking lugs.	Clean lugs.
SHORT RECOIL	Gaps in bolt rings not staggered (if three piece system is being used).	Stagger ring gaps (if three
	Rings worn or too loose.	Replace
	Carbon or dirt in carrier key or on outside of gas tube.	Clean.
	Q-tip/pipe cleaner stuck inside carrier key.	Remove.
	Weak or reloaded ammunition.	Replace with factory fresh ammunition,

## TROUBLESHOOTING (CONTINUED)

PROBLEM	CHECK FOR	WHAT TO DO
SHORT RECOIL	Weak or reloaded ammunition	Replace with factory fresh ammunition. Remington UMC is recommended.
	Loss of gas power.	Check entire gas path, especially carrier key.
	Dirty rifle.	Clean
	Improper lubrication.	Lubricate generously.
BOLT FAILS TO LOCK OPEN AFTER LAST ROUND.	Defective magazine.	Replace.
	Dirty or corroded bolt catch.	Clean or replace.
SELECTOR LEVER BINDS.	Needs oil.	Lubricate.
	Dirt or sand under trigger.	Clean.
BOLT CARRIER "HUNG UP."	Round jammed between bolt and charging handle and/or double feed.	<ol style="list-style-type: none"><li>1. Remove magazine.</li><li>2. Push in on bottom of bolt catch.</li><li>3. Bang rifle butt on ground, bolt should shift to rear.</li><li>4. While bolt is held to rear, round should fall out through magazine well.</li></ol> <p>NOTE: If this procedure fails, use a cleaning rod to push bolt fully to the rear through the ejection port.</p>

**WARNING: KEEP CLEAR OF THE MUZZLE!**

## MISCELLANEOUS TECHNICAL NOTES

ArmaLite publishes a large number of Technical Notes that provide a huge amount of information about our rifles and similar models. This information is available at no charge in the Technical Notes section of the Library at ArmaLite.com. The following extracts may be particularly relevant to your new rifle:

**CAM PIN FIT:** Tight tolerances on the AR-10 may require use of a flat tipped screwdriver or other suitable object to slip the cam pin past the bolt carrier key. *Never alter the cam pin.*

**WARNING! INSERTING THE CAM PIN:** When assembling the AR-10 carrier group, *insert the bolt into the carrier just deep enough to allow the cam pin to be inserted.* Easy does it! Inserting the bolt too far into the carrier without the cam pin in place can, in some cases, allow the gas ring to expand into the groove at the base of the gas cylinder inside the carrier and jam the bolt in place. This then requires wiggling the bolt slightly to remove it. In some cases it might require driving the bolt forward with a brass rod and destroying the ring. Inserting the cam pin as soon as possible assures that the bolt can't be pushed into the carrier far enough to cause a problem.

**FIRING PIN SPRING:** The AR-10 firing pin spring reduces the firing pin mark on the primer of a chambered cartridge that is characteristic of M-16 type rifles, and the "slamfire" possible with overly sensitive primers. The tight end of the firing pin spring engages a groove on the firing pin, which prevents the spring's loss. During assembly of the bolt carrier group, press the firing pin forward about 1/8 inch after feeling spring resistance to insert the firing pin retaining pin behind the large flange of the firing pin, and thereby hold it in position. **THE FIRING PIN SPRING IS AN IMPORTANT SAFETY DEVICE AND MUST NOT BE LOOSE, REVERSED, REMOVED, OR LOST.** ArmaLite® will provide a free replacement if the firing pin spring is lost or damaged.

**FIRING PIN RETAINING PIN:** Do not pound or force the firing pin retaining pin into position. To check for proper assembly of the AR-10 bolt carrier assembly, hold it with the bolt up to verify that the firing pin doesn't fall out. Push forward on the rear of the firing pin and make sure that it is pushed back by the firing pin spring. Replace the retaining pin if it is damaged.

**MATCH TRIGGER ADJUSTMENTS:** ArmaLite's National Match trigger assembly isn't user adjustable. For safety reasons, it is intentionally built with a small amount of creep in the second stage. As it breaks in with use (200 to 500 rounds) the creep tends to decrease to an acceptable level. If excess creep remains, the trigger can be tuned by a gunsmith using techniques similar to those used with the M1/M14 trigger system. ArmaLite technicians will fine-tune the triggers for a nominal shop fee, plus shipping.

**BREAK-IN PERIOD:** ArmaLite rifles are made more tightly than other rifles of similar design. A break-in period of 200 rounds allows machined or phosphate-coated surfaces smooth out the rifles action. Lubricate well before firing.

**ZEROING THE FRONT SIGHT FOR WINDAGE:** Normal manufacturing tolerances can cause the rear sight to be off-center after the rifle is zeroed. This is especially irritating for target shooters, who generally wish to have equal windage adjustments available to both the left and right. ArmaLite's exclusive screw-clamping gas blocks (T and A4 models) and front sight bases (AR-10 and M15-A2 models) allow the owner to zero the front sight for windage with the rear sight perfectly centered.

To zero the front sight, put the rear sight aperture in the center of the rear sight base. Fire a three-shot group to see where the rifle is shooting, then adjust the front sight to the left or right until the rifle is zeroed horizontally. To adjust the shot group to the *left*, loosen the clamping screws and shift the front sight very slightly to the *right*. Very little movement is needed. To shift the group to the *right*, move the sight slightly to the *left*. The sight should be easy to move by hand or with very light taps of a leather or nylon mallet. Tighten the base and try again. If the sight is too tight to shift easily, remove one or both of the clamp screws, screw it (or them) into the opposite side of the sight base and tighten very slightly against a coin or blade slipped into the split at the bottom of the sight base. It will spread the gas block or sight base so that you can shift it very easily.

**REMOVING THE AR-10 and M15A4(T) TUBULAR HANDGUARD:** It should seldom be necessary to remove the tubular handguard of the (T). If it must be removed, a vise with protected jaws is useful. Begin by holding the rifle by the fiberglass tube. Use a strap wrench to grasp the lock ring at the front of the receiver. Loosen the ring by rotating it counterclockwise (as viewed from the butt), and pull forward on the handguard at the same time. Wrapping the lock ring with double-sided tape or duct tape, or wiggling the handguard slightly as it loosens may help. Reverse the procedure to install. **WARNING: EXCESSIVE TIGHTENING OF THE LOCK RING WITH A STRAP WRENCH CAN LOOSEN THE BARREL NUT OR DEFORM THE GAS TUBE.**

**APPEARANCE:** Almost all complaints concerning appearance come from customers who forget that the AR-10 not a polished commercial or collectors-grade rifle. They are industrial products, not custom rifles, and bear simple finishes. The rifles normally show evidence of test firing such as small amounts of brass marks or powder residue.

The anodized surface of new ArmaLite® rifles bears a matte finish. Various soft plastic cleaning pads and oil may be used to "polish" the matte to bring the surface to a uniform sheen. If the receiver looks light or uneven, it's probably dry. A light coat of oil on the anodized surface will cure the problem.

The receivers and front sights are made of forgings. Forging is a heavy industrial process that leaves small dents and dings on the forgings. ArmaLite inspects all forgings for excessive marks or deformation, but no forging is free of them. This is a normal condition of forgings, not a defect.

A small amount of powder residue normally seeps from under the front sight/gas block and the recoil check. This is normal, but cannot be seen on phosphated barrels. It can be seen on stainless steel barrels but presents no problem.

## **IMPORTANT NOTE ABOUT THE LIMITED WARRANTY**

**ArmaLite® limited warranty is applicable to original, individual purchasers of ArmaLite® only. Institutional purchasers receive a one year warranty beginning with the date of sale. THE WARRANTY BECOMES EFFECTIVE ONLY UPON RECEIPT OF THE WARRANTY REGISTRATION CARD PROVIDED WITH THE RIFLE. IF NO CARD IS ON FILE, ALL WORK WILL BE BILLED AT NORMAL SHOP RATES. NO VARIATION IS ALLOWED.**

## **SERVICE, PARTS, AND ACCESSORIES**

ArmaLite® offers a wide range of service, repair parts, and accessories. This enables you to stock the parts, tools, and instructions needed to maintain your rifle for years. Parts and accessories include:

- All rifle components
- Complete upper halves, to convert your rifle to another configuration or caliber
- Telescopic sights and mounts
- Target shooting sights and supplies
- Cleaning supplies and rifle cases
- Maintenance manuals and tools
- Ammunition
- Extra magazines

To obtain a complete ArmaLite® catalog simply enclose a note with your warranty registration or visit [ArmaLite.com](http://ArmaLite.com).

## **CONVERTING 20 ROUND M-14/M1A RIFLE MAGAZINES TO AR-10 MAGAZINES.**

High quality metal 20 round M-14 or M1A magazines can be converted to AR-10B series magazines. U.S.G.I. magazines are best. ArmaLite® AR-10B magazines are not interchangeable with early AR-10 (waffle) magazines or with SR-25 magazines.

New 10 round magazines are available from ArmaLite®. ArmaLite sells AR-10 20 round magazines when available. “Post-Ban” 20 round magazines are available to government and export purchasers.

Any high-quality magazine suitable for use in the M16 series service rifle will work in any ArmaLite® .223/ 5.56mm rifle.