



## ATR1 Rifle Owner's Safety and Instruction Manual



**Owner's Name:** \_\_\_\_\_

**Model:** \_\_\_\_\_

**Serial Number:** \_\_\_\_\_



### **WARNING!**

READ ALL INSTRUCTIONS AND WARNINGS IN THIS OWNER'S MANUAL AND ANY ACCOMPANYING LITERATURE **BEFORE** HANDLING, LOADING OR USING THIS FIREARM.

If there is any aspect of the owner's manual or how to safely operate the firearm that you do not understand, contact Red Rock Arms, your firearms dealer, or seek training from a professional qualified in the safe handling of firearms of this type **BEFORE** you handle, load or use this firearm.



### **WARNING!**

A safety lock and instructions for its use were shipped with your firearm. Red Rock Arms urges you to properly secure your firearm from children and other unauthorized users. If you did not receive or do not have the safety lock and instructions, contact Red Rock Arms to obtain them.



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READ ALL INSTRUCTIONS AND WARNINGS IN THIS OWNER'S MANUAL AND ANY ACCOMPANYING LITERATURE BEFORE HANDLING, LOADING OR USING THIS FIREARM.

If there is any aspect of the owner's manual or how to safely operate the firearm that you do not understand, contact Red Rock Arms, your firearms dealer, or seek training from a professional qualified in the safe handling of firearms of this type BEFORE you handle, load or use this firearm.

## **IMPORTANT Safety Warnings – Noted by –**



These Safety Warnings are for your protection and the safety of others. Disregarding information in this Owner's Safety and Instruction Manual and accompanying literature may result in serious injury or death.

**NOTE:** In the event of any conflict or difference between the instructions and safety rules in this manual and those contained in accompanying literature from other sources, you should follow the instructions, directions and warnings in the Red Rock Arms Owner's Safety and Instruction Manual, which is specific to your Red Rock Arms firearm.

This Safety and Instruction Manual and the safety lock and safety lock instructions should always accompany this firearm and be transferred with it upon change of ownership or when the firearm is loaned or presented to another person.

A copy of the Owner's Safety and Instruction Manual and/or a replacement safety lock and safety lock instructions are available free of charge, upon request from:

Red Rock Arms  
PO Box 21017  
Mesa, Arizona 85277-1017  
Phone: 480.832.0844  
Email: [info@redrockarms.com](mailto:info@redrockarms.com)

OR available for download on the world-wide-web at:

<http://www.redrockarms.com>



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## 1.0 Safety



**WARNING!** The ATR1 rifle, like other firearms, is potentially a lethal weapon that can cause serious injury, death or damage to property if handled improperly.

***Firearms safety is YOUR responsibility!*** There is no such thing as a “safe” or “foolproof” firearm, as firearms, by their very nature, are inherently dangerous. Handling your ATR1 rifle safely ***depends on YOU!*** Handled safely, your ATR1 rifle will give years of shooting enjoyment. Handle it carelessly, and ***YOU*** will put yourself and everyone around you in danger of serious injury or death. Safety must be the first, foremost and constant consideration of everyone who handles a firearm. When handling a firearm, you cannot guess, you cannot forget, you cannot allow yourself even a momentary lapse of attention or good judgment, or irreversible tragedy may result.



**WARNING!** Read the safety rules in this manual and all accompanying literature. Failure to read, understand and obey these safety rules and procedures can result in serious injury or death. If there is anything in this manual or the accompanying literature you do not understand, contact Red Rock Arms, Inc., the gun dealer from which you purchased your ATR1 rifle, or someone qualified in the safe handling of this firearm **BEFORE** you handle, load or fire it!

## 1.1 Basic Rules of Firearms Safety

**1. Treat all firearms as if they were loaded, at all times.** Many accidents occur with firearms that are handled carelessly, because they are believed to be “unloaded”. These accidents can be avoided by handling all firearms the same way you would handle a loaded firearm, at all times. Even after you verify that a gun is unloaded, you should continue handling it as you would a loaded gun, and make sure that others around you do the same.

**2. Point the muzzle in a safe direction at all times.** A “safe direction” is one in which, if the firearm were to discharge, there would be no injury to anyone. Never point a gun (whether you think it is loaded or unloaded – see Rule #1 above) directly at another person or at yourself. Consider that a bullet can ricochet (glance off) pavement, floors, walls, rocks, the ground, water, ice or almost any other object it strikes. Also, bullets can penetrate walls, ceilings, floors, doors, windows, and many other materials to kill or injure someone on the opposite side.

**3. Keep your finger off the trigger and outside the trigger guard until you are aimed at a proper target and have decided to fire.** If your finger is inside the trigger guard, you could fire your gun without intending to – for instance, if you were startled, or if you slipped or lost your balance. By keeping your finger outside the trigger guard until you are on target and intend to fire, you ensure that you will never hit anything you do not intend to.

**4. Be sure of your target, and what is around and beyond it.** The bullet fired from your ATR1 rifle can travel ***over one mile***, and has the potential to kill or seriously injure someone at that distance! Once you pull the trigger, you cannot call the bullet back, so you must positively identify your target ***before*** you fire. Never fire (for instance, at a noise, a movement, a rustling bush, or a shape in the dark) until you have ***positively*** identified your target as something you intend to shoot. Fire only with a ***safe backstop*** behind your target – something that will stop and contain the bullets you fire, even if you miss the target or your bullet passes through it.

**5. Whenever you handle a firearm that, even momentarily, has been out of your direct control, start by checking its condition to determine whether or not it is loaded.** A firearm in your hands is a lethal weapon which is ***YOUR*** responsibility, so ***YOU*** must check it yourself, ***NOW***, not later. Do not rely on someone else to check it. Do not take someone else’s word for the firearm’s condition. Do not rely on your memory of having checked the firearm previously, or on your belief that you left it unloaded the last time you used or handled it. ***Check it again yourself now***, by following the instructions in this manual for “Clearing” the ATR1 (Manual Section 6.2).



**6. Never give a firearm to anyone, or take a firearm from anyone, unless it is unloaded and the action is open.** If someone tries to hand you a firearm with the action closed, politely ask them to open it before you take it from them. If you need to open the action of a firearm with which you are not familiar, *don't experiment, lest you make a fatal mistake!* Instead, ask someone who knows how to handle the firearm to open the action and allow you to verify that it is unloaded. If you can't find someone who knows how to handle the firearm, leave it alone!

**7. Firearms should be unloaded when not actually in use.** Load your firearm only when you are on the target range or in the field and ready to begin using it. Unload your gun as soon as you are finished shooting. Unload your gun before you bring it back into your car, camp or home. Never leave a loaded gun unattended, even for a moment. At a shooting range, unload your gun before going downrange to check your target.

**8. Thoroughly read and understand the owner's manual and other literature supplied with your firearm. Never use any firearm unless you completely understand how it operates and how its safety features work.** Contact the manufacturer or your firearms dealer if you have any questions or concerns, or if you are not certain you have all the literature supplied by the manufacturer with the firearm at the time it was first sold. Even if you understand everything in this manual, no manual can provide you with the benefits of hands-on firearms instruction. If you are not already an experienced firearms user, you should obtain training in the safe and proper use of firearms by attending one of the many firearms safety and shooting courses offered in all parts of the country by the National Rifle Association (telephone 703-267-1000), gun clubs and ranges, gun shops, shooting schools and other qualified sources of instruction.

**9. Before firing any firearm, be sure it is in good working order and that the barrel is clear of dirt, grease, water, excess oil, rust, corrosion or any other obstruction.** The .223 Remington or 5.56mm cartridge fired by your ATR1 rifle can generate *over 50,000 pounds of pressure per square inch!* Any obstruction that prevents the bullet from easily exiting the barrel can cause a dangerous increase in pressure, causing the firearm to burst with possible serious injury or death to the shooter or others nearby. Before firing, field strip the rifle following the steps in section 8.0, so you can look through the barrel from the rear and check to be sure the bore is unobstructed. **Never alter or modify your gun from factory condition, or allow anyone who is not a qualified gunsmith to repair or work on your gun.** A firearm, like any mechanical device, is subject to wear and parts breakage, and could become unsafe with use. Do not use your firearm if any aspect of it needs repair or is not working properly. Instead, have it repaired before further use by Red Rock Arms, Inc. or a qualified gunsmith. Even if your ATR1 appears to be in excellent condition and is functioning perfectly, it should be professionally inspected and serviced at regular intervals. Red Rock Arms, recommends that you have your ATR1 professionally inspected and serviced by the factory or a factory-approved armorer not more than every 3,500 rounds or every three (3) years, whichever comes first.

**10. Use only proper ammunition recommended by the firearms manufacturer, and be sure the ammunition is the correct caliber for your gun.** Most modern firearms have their caliber designation stamped into the firearm's barrel or receiver. Your ammunition box and cartridge headstamp should bear the exact same cartridge designation. Just because a cartridge fits into the gun doesn't mean it is safe to fire. Never fire ammunition which is damaged, corroded, or of questionable origin or condition. Firing even a single defective cartridge can destroy your gun and cause serious injury or death.

**11. Always wear high-quality ear and eye protection when shooting or observing, and be sure that others who are present do the same.** Exposure to gunfire noise will cause permanent hearing loss (deafness) if good ear protection (either commercially manufactured ear plugs, earmuff-type hearing protectors, or both) is not worn. Close-fitting, impact-resistant shooting glasses or safety glasses of wraparound or side-panel design help to guard against potentially blinding eye injuries caused by ejected shell cases, granules of powder, pieces of broken clay pigeons, splashback of fragments from the target or backstop, metal fragments which can result from a burst cartridge, etc. Never shoot a firearm, or allow yourself or others to be present where shooting is in progress, without both eye and ear protection in place. Eye protection can also provide important protection while you are disassembling and cleaning your firearms, both from flying springs and firearms parts, and from aerosols and other solvents and cleaning fluids that can spray or splash into your eyes, causing serious eye injury.



**12. Firearms, drugs and alcohol don't mix!** Never handle firearms while under the influence of alcohol or drugs (including prescription medications) that can impair your normal senses, abilities, alertness, reflexes, perception or judgment. Make sure everyone in your presence follows the same rule. Also, avoid handling firearms when you are ill, exhausted, upset or preoccupied with other concerns – safe firearms handling requires your full attention, and all of your abilities, unimpaired by other factors.

**13. Any firearm which is not under your direct control should be stored so it is inoperable or inaccessible to children and other unauthorized users.** Children are attracted to, and can find, load and operate firearms, causing serious injury or death to themselves and others. Preventing child access and tragic, avoidable accidents is **YOUR** responsibility, as an adult gun owner. The safest way to store firearms is unloaded, locked in a gun safe or vault. Alternatively, a trigger guard lock or a cable lock like the one supplied with your ATR1 rifle can be used to make your firearm inoperable by an unauthorized user. If a trigger guard lock or cable lock is used, the locked firearm should also be kept out of sight and reach of children and others, unloaded, with the ammunition secured in a different location. Another safe storage option is to disassemble (field strip) the firearm, and store it, again out of sight and reach of unauthorized users, in a separate location from the ammunition. For users who wish to keep a firearm readily accessible for self protection, a variety of quick-access locks and lock boxes, some with push-button locks, are available for both handguns and long guns from most firearms retailers. Whatever storage option you choose, remember that **YOU ARE RESPONSIBLE** for keeping others safe from injury with your firearm, even when it is not in use. The safety of your children, family members and others depends on **YOU!**

## 1.2 Safety Lock Instructions

A safety lock is provided with every Red Rock Arms firearm. If you did not receive a safety lock or safety lock instructions, you should contact Red Rock Arms for a replacement, free of charge.



**WARNING!** The safety lock provides reasonable protection from unauthorized use, but it does not provide 100% guaranteed protection. It can be cut off, or forcibly removed by other means, by one with the tools, ability and intent to remove it.



**WARNING!** While preparing to install and while installing the safety lock keep the muzzle pointed in a safe direction at all times.

### Install the safety lock as follows:

1. Follow the unloading instructions in Section 6.2.
2. After unloading, the safety lever must be on “Safe” (“S”), the magazine removed and the action open with the cocking lever locked in the recess of the cocking lever housing. The rifle is now ready to install the safety lock.
3. Turn the key clockwise (until the key stops) to the unlock position.
4. To remove the cable from the lock, **HOLD the key all the way** in the unlocked position and pull the right side of the cable.
5. Thread the end of the cable into the ejection port, through the receiver and out of the magazine well. Fig. 1.
6. With the key **HELD ALL THE WAY** in the unlocked position with one hand, insert the loose end of the cable all the way (until it stops) into the receiving hole of the lock body.
7. With one hand holding the cable end **ALL THE WAY** into the hole of the lock body, turn the key counter-clockwise to the locked position and remove the key.
8. Pull sharply on both sides of the cable to verify the cable is locked.
9. Adequately secure the key so it may not be found and used by children or unauthorized others.



Fig. 1



**WARNING!** Adequately secure the key so it may not be found and used by children or unauthorized others.

### 1.3 Safety Rules and Precautions for Firing and Use of the ATR1



**WARNING!** Keep the ATR1's safety lever engaged in the "Safe" ("S") position until you are aimed at a proper target and have decided to fire. Failure to do so could cause serious injury or death.



**WARNING!** Use the ATR1's safety lever, but don't trust or rely on it as a substitute for safe gun handling practices. The safety is a mechanical device which could fail. Or, by mistake, you may think the safety is on when it is not. Or the safety may become disengaged without your knowledge. Or you could think your gun is unloaded when there is a cartridge in it. Always follow the safe gun handling rules and procedures in this manual, whether you think the safety is on or off, and whether you think the rifle is loaded or unloaded. Don't pull the trigger when the safety is engaged, or when it is positioned part way between Safe ("S") and Fire ("R" or "A"). Don't use or rely on the safety lever to try to "childproof" your rifle or keep it safe from untrained persons – instead, your rifle should be unloaded and securely locked up, out of access of children and other unauthorized users.



**WARNING!** So that the rifle may be used as a single loader, it will fire whether or not a magazine is in the gun if a cartridge is in the chamber. **Removing the magazine does not unload the rifle, and does not prevent the rifle from firing!** A round left in the chamber after the magazine is removed can cause serious injury or death if the trigger is pulled! Unload your rifle properly, including checking the chamber both visually and physically, following the instructions in Section 6.2.



**WARNING!** Keep your finger off the trigger and outside the trigger guard until you are aimed at a proper target and have decided to fire. Failure to do so could cause serious injury or death.



**WARNING!** When firing the ATR1, keep away (and keep others away) from the right side of the rifle. Fired cartridge cases eject (are thrown from the rifle) with considerable force from the ejection port on





the right side of the rifle, and could cause serious injury, including but not limited to eye injury, if they strike a person.



**WARNING!** Fired cartridge cases ejected from the ATR1 are extremely hot, and can cause serious burns. In addition, the painful burn from a hot cartridge case can distract a shooter from keeping his firearm pointed safely and from other safe handling practices, causing a dangerous situation or an accident. When firing, stay clear, and keep others clear, of the right side of the rifle, from which the hot cartridge cases are ejected. Wear close-fitting clothing, avoiding clothing with open collars and necklines into which hot cartridge cases can fall. A baseball cap or other brimmed hat or visor worn so the brim covers the top of the wearer's safety glasses can offer additional protection to the wearer's face and eyes, preventing hot cases from falling into any gap between the top of the safety glasses and the wearer's forehead, possibly causing a serious burn to the eye.



**WARNING!** Keep hands, fingers and other body parts from touching the muzzle, barrel, ejection port area or chamber during after firing, as they could be burned by hot metal.



**WARNING!** Keep hand and fingers, used to grip handguard behind the handguard stop. Failure to do so may result in serious injury. See Section 6.6, Firing the Rifle.



**WARNING!** If dropped or struck, whether the safety is "on" or "off", the rifle may fire, causing serious injury or death. Keep the chamber empty unless actually firing! Keep the safety "on" ("S") unless actually firing! When carrying or handling the rifle, keep it pointed in a safe direction, and carry it in such a way that you can safely control the direction in which the rifle points even if you should slip, stumble or fall. See other safety warnings regarding carrying or transporting the rifle in an unloaded condition, unloading the rifle before crossing obstacles or areas with poor footing, etc. See Section 6.2 to unload the rifle.



**WARNING!** Children are attracted to, and can find, load and operate firearms, causing serious injury or death to themselves and others. Prevent child access by always keeping guns locked away and unloaded when not in use. If you leave a gun loaded or unloaded where a child obtains and improperly uses it, you may be fined or sent to prison or both.

- Never transport or carry a loaded firearm in a vehicle or otherwise. Always transport or carry your rifle unloaded, with the safety engaged in the ("S") detent position and the action locked open. A suitable carrying case should be used to transport or carry your unloaded rifle to and from the range or other safe shooting area. Check the laws to determine and follow legal requirements in transporting a firearm in your jurisdiction. Close the rifle's action and load the rifle only when you are at the range or other safe shooting area, ready to begin shooting.
- Never climb a fence, ladder, tree or other object, jump across a brook or ditch, crawl under a fence or other obstacle, walk across an icy surface, steep slope or other area with poor footing, or cross other slippery or precarious terrain or obstacles with a loaded firearm. Instead, ***unload your firearm first.*** When carrying your rifle in the field, keep the muzzle pointed in a safe direction and carry the rifle so you can safely control the direction in which it points in the event you stumble, slip or fall.
- Never shoot at a hard surface (rock, pavement, metal, ice, etc.) or at the surface of water, as the bullet may ricochet (glance off) the surface and travel in any direction, causing serious injury or death to someone you cannot see. Shoot only where there is a safe backstop (one which will safely stop and contain the fired bullets), free from rocks, hard objects and obstructions that could cause ricochets or splash-back of bullets, fragments, pebbles or rock particles. Check local and state laws to be sure shooting is permitted at the place you intend to shoot.
- When shooting, be alert to be sure no one comes into the line of fire. Check the backstop and target area carefully to be sure it is free of people each time before you begin to fire.
- When firing with a group of people, put a responsible person in charge to maintain safety, discipline and control to reduce the chance of accidents.





- On a firing range, be alert to the commands of the range officer, and follow them precisely and immediately.
- Do not handle a firearm when anyone is forward of the firing position. Before anyone moves downrange to post or check targets or for any other purpose, all firearms should be unloaded, with safeties engaged and actions locked open, and placed safely on the bench where they should not be touched or handled until everyone returns from downrange.
- Do not handle firearms when you are tired, cold or impaired physically or mentally, in any way.
- Never fire your rifle near an animal, unless it is trained to accept the noise of gunfire. An animal's startled reaction to the sound of gunfire could injure it or could cause an accident.
- Never continue to use your rifle if it is not functioning properly. Never force a jammed action, as the jammed cartridge may explode if the primer is crushed or pressed against any metal part of the rifle or against another cartridge.
- Use only appropriate accessories for your ATR1 rifle. Be sure all accessories, including slings, ammunition carriers, sights and sight mounts, lighting devices, etc. are compatible with the firearm and do not interfere with its safe operation. If in doubt, consult Red Rock Arms, Inc. The manufacturer is not responsible for any damage or injury caused by the use of improper accessories, and mounting, attachment or use of improper accessories could void the warranty.



**WARNING! Most ammunition and cartridge primers contain lead, which is a toxic (poisonous) substance!** With most types of ammunition, shooting a firearm produces vapor and particles of lead, which is a toxic (poisonous) substance. Especially (but not only) in poorly ventilated range areas, breathing air which contains the lead vapor and particles is harmful to one's health, and can result in lead poisoning. Pregnant women, unborn fetuses, nursing mothers, infants and young children are especially susceptible to the risks of lead ingestion. Handling, firing and cleaning firearms, and handling ammunition, empty cartridge cases, target frames and other range equipment can deposit lead on one's hands and face, which can then be ingested (swallowed) if one drinks, eats or chews gum or tobacco products without first washing the hands and face. Lead poisoning can result in brain damage, nervous system disorders, digestive ailments, birth defects, and other serious physical effects or death. Shoot only in well ventilated areas. Minimize the period of time you remain on indoor shooting ranges, leaving when you are done firing. Do not eat, drink, chew, smoke, or engage in any other hand-to-mouth activity while shooting. Wash the hands and face thoroughly with soap and cool water as soon as you are finished shooting, and before eating or drinking. Do not collect fired brass in your hat, or put fired brass in your pockets. When you return from shooting, especially on an indoor range, change and wash your clothing. Do not allow children to handle or play with fired cases, shooting equipment, range bags, or shooting clothing. Consider using rubber gloves when cleaning firearms, to prevent lead and solvent from being absorbed into your skin. Wash thoroughly with soap and cool water after cleaning firearms. Take proper precautions if you reload ammunition or cast lead bullets. If you notice any symptoms or believe you may have been exposed to excessive amounts of lead, consult your physician.

### 1.4 Warning Regarding Tactical or Self-Defense Use of the ATR1 Rifle



**WARNING!** The use of the ATR1 rifle or other firearms for tactical or self-defense purposes involves significant risk of death or serious injury, far beyond the normal recreational use of this or other firearms. The manufacturer of this rifle makes no claim, and provides no guarantee, that the ATR1 will keep the user safe from injury or death during criminal attack, nor that the rifle will function flawlessly for that purpose. In fact, all firearms, like all other mechanical devices, can and do malfunction at times, and the occurrence of such a malfunction during the tactical or defensive use of the ATR1 or any other firearm is a real possibility for which training should be obtained, and which must be taken into account when considering the defensive use of a firearm. This Operator's Safety and Instruction Manual is intended



for the recreational user of the ATR1 rifle. The types of safety and gun handling techniques and procedures necessary for safe and effective tactical or self-defense use of the ATR1 (some of which differ significantly from those which are appropriate for recreational use) are **beyond the scope of this manual**. Law enforcement, security and military personnel and private individuals who intend to use this or other firearms for tactical or self-defense purposes should undergo thorough tactically-oriented training from a qualified source, stressing safe tactical procedures, as well as ongoing in-service retraining at regular intervals, in order to use this or other firearms safely for tactical or self-defense purposes. In addition, Red Rock Arms recommends that any ATR1 rifle and all of its magazines used by law enforcement, security or military personnel or others for tactical or self-defense-use, should be inspected and serviced by the factory or a factory-approved armorer annually or every 3,500 rounds, whichever comes first.

## 2.0 Ammunition

The ATR1 rifle is chambered for the 5.56 x 45mm cartridge (also known under the military designation as the M193) and the .223 Remington cartridge (also known as .223 cal.). The ammunition box, and the head of each cartridge, should be marked with the designation “5.56 mm or “.223 REM”. The use of any cartridges other than these in the ATR1 rifle is unsafe, and could cause damage to the rifle, serious personal injury or death.

Use only high quality, new, clean, dry, commercially manufactured, jacketed ammunition in excellent condition, in the proper caliber for the rifle. **Never use damaged, corroded or otherwise defective ammunition, ammunition which is dirty, wet, dented or deformed or in which the bullet has been pushed back into the cartridge case, foreign military surplus ammunition, or other ammunition of questionable quality, age or origin.** The use of reloaded, “remanufactured” or handloaded ammunition, unjacketed lead ammunition or any ammunition which is not manufactured to SAAMI (Sporting Arms and Manufacturers Institute) or NATO standards, will **void the warranty** and may be unsafe, possibly causing damage to the rifle, serious personal injury or death

Like other firearms with gas operated bolt unlocking actions, the ATR1 **MAY NOT** function reliably with “low impulse / pressure” ammunition or it may be damaged, cause serious personal injury or death, by “high impulse / pressure” ammunition such as “proof loads”. The gas system components in your ATR1 (see section 5.2) is designed for “mid impulse / pressure” ammunition manufactured to SAAMI or NATO specifications.

Heating ammunition can dangerously increase the pressure produced when the ammunition is fired. Keep ammunition away from heat sources, including direct sunlight. Ammunition which has become heated should be allowed to cool before being loaded or fired.

Keep ammunition dry, and free of oil, solvent, or grease. Firing ammunition with oil, solvent or grease on it can cause dangerously high pressure, with possible damage to the firearm, serious injury or death. Oils and solvents can also penetrate ammunition, causing misfires.



**WARNING!** Use only high quality, new, clean, dry, commercially manufactured ammunition in excellent condition, in the proper caliber for the firearm as marked on the firearm and described in this Owner's Safety and Instruction Manual. The use of reloaded, “remanufactured” or handloaded ammunition, damaged, defective or corroded ammunition, unjacketed lead ammunition, any ammunition not manufactured to SAAMI or NATO specifications or other ammunition of questionable quality, age or origin, is **unsafe, will void the warranty, and could result in damage to the firearm, serious personal injury or death!**



**WARNING!** Unjacketed lead ammunition is **NOT** recommended for use with your ATR1 rifle. It will cause heavy deposits of lead (leading) in the barrel. Leading can produce excessive pressures, resulting in damage to the rifle and serious injury or death. See Section 8.0 for WARNING and recommendations for proper cleaning if unjacketed lead ammunition has been used with the ATR1 rifle.



**WARNING!** Never leave a live round in the chamber that you do not intend fire immediately. Under certain circumstances, ammunition left in a hot chamber can auto-ignite. That is, the residual heat from the chamber can cause direct ignition of the gun powder or primer. Auto-ignition may cause damage to the rifle because the gun powder reacts at an elevated temperature and therefore a higher than normal pressure will result in the chamber and barrel. If the bolt is not closed or not locked closed the resultant auto-ignition could cause damage to the firearm, serious personal injury or death! If the bolt is locked closed, the gun will fire propelling the bullet out of the muzzle, but could result in damage to the firearm, serious personal injury or death because the rifle will fire unexpectedly and the may not be aimed or under control. Never leave a live round in the chamber that you do not intend fire immediately. Follow the procedures for Clearing (or unloading) the rifle in Section 6.2. Circumstances generating enough heat to cause auto-ignition are typically the result of firing a high number of rounds through the rifle within a relatively short period of time.

### 3.0 General Description

The ATR1 semi-automatic rifle is a modern small arm produced in accordance with the most advanced manufacturing methods. It permits semi-automatic fire from all positions with the bolt closed. It fires the 5.56mm or .223 Remington cartridge. The ATR1 is a recoil operated rifle with stationary barrel and gas piston operated bolt unlocking system. The cartridges are fed from either an AR-15 or M-16 magazine.



Fig. 2 ATR1

### 3.1 Markings

The receiver is classified as the “firearm” by the BATF. All required markings are located on the right side of the magazine well. See Fig. 3.

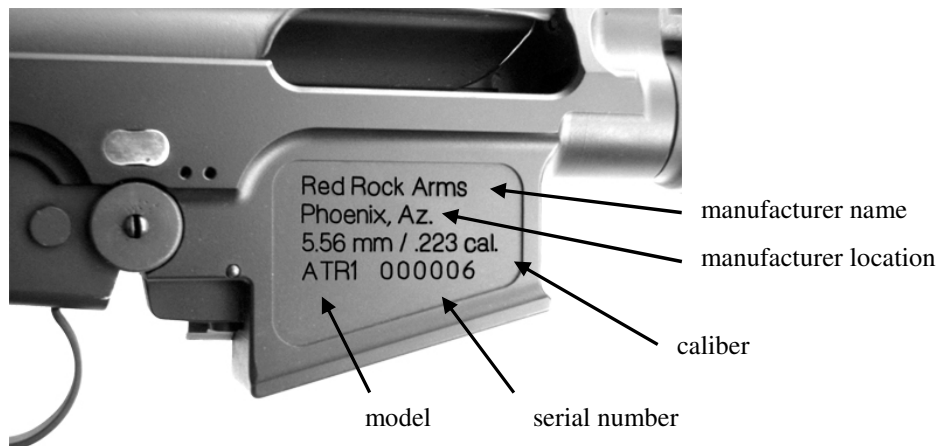


Fig. 3



#### 4.0 Assemblies

1. Upper Assembly - receiver, barrel, gas system, handguard,
2. Bolt Assembly – bolt, extractor, carrier
3. Lower Assembly, trigger group, hand grip, buttstock, rear sight and recoil spring
4. Hinge Bolt /Nut
5. Receiver Cover
6. Magazine

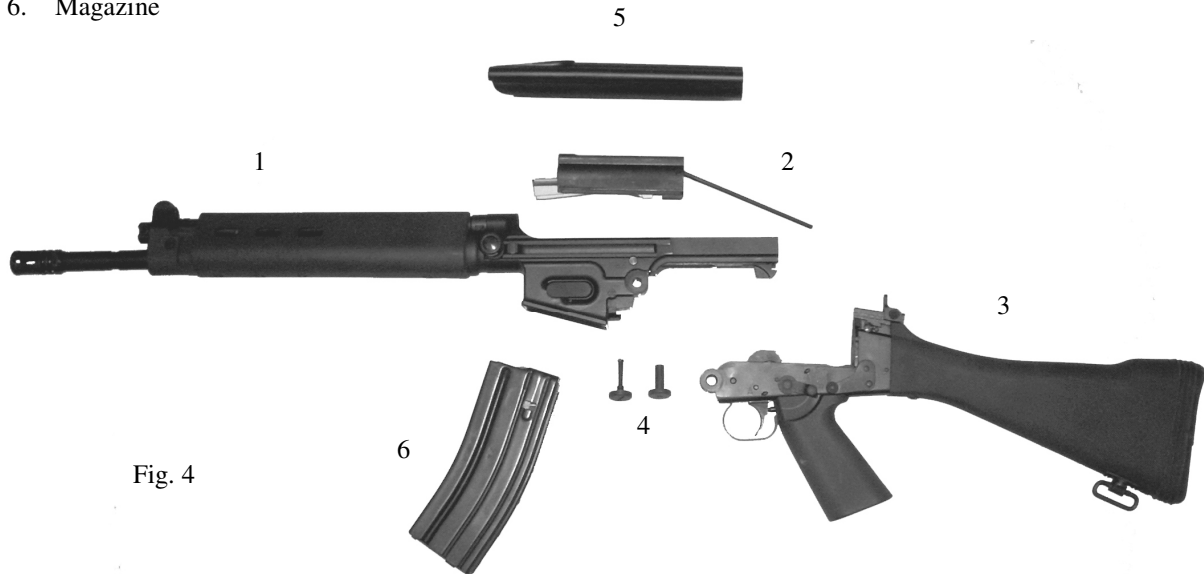


Fig. 4

#### 5.0 Detailed Description of Assemblies

##### 5.1 Upper Assembly

The receiver connects the barrel, lower assembly and magazine and houses the bolt assembly. The receiver is light weight, high strength aerospace specification aluminum. It is hard anodize coated and finish painted for wear resistance and corrosion protection. The receiver is classified as the “firearm” by the BATF and is marked with the manufacturer’s information, model and serial number on the right side of the magazine well (see Section 3.1). The Charging Handle located on the left side of the receiver for cocking and loading the firearm and to secure the bolt in its rear position by engaging the bolt hold open device. The ejector (stationary), magazine release button and locking shoulder are contained in the upper assembly. The locking shoulder establishes the head spacing and is set at the factory. The barrel is timed, threaded and torqued into the receiver. The gas system consists of the gas block, gas piston, gas regulator, gas piston spring, gas piston housing and gas piston housing retaining nut. The front sight post is elevation adjustable and located atop the gas block. The handguard is attached to the upper assembly by means of a retaining shroud ring that traps both halves of the handguard at the receiver and a retaining bolt and nut through the gas block.



Fig. 4

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The magazine catch is actuated by toggling it inward, forward of the pivot point, which is in the middle of the magazine catch button. See Fig. 6.

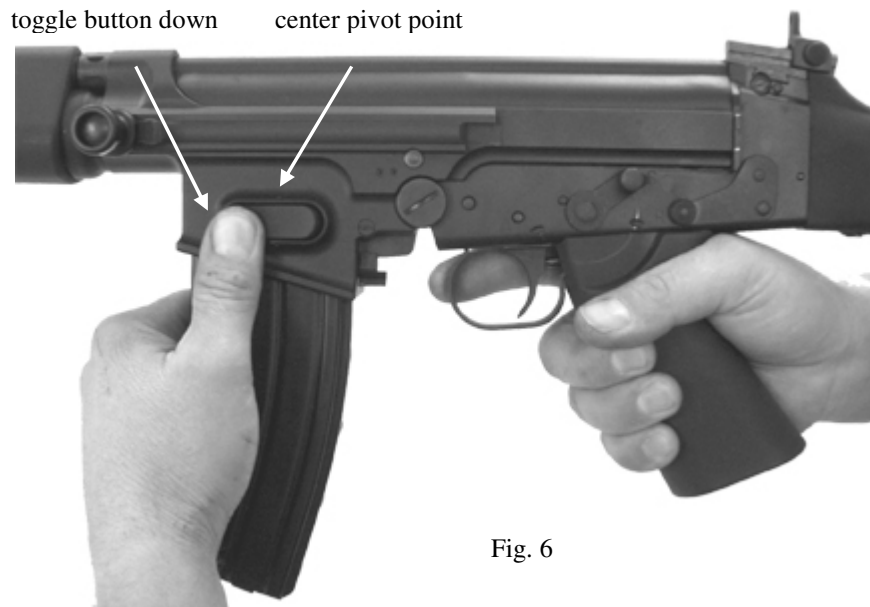
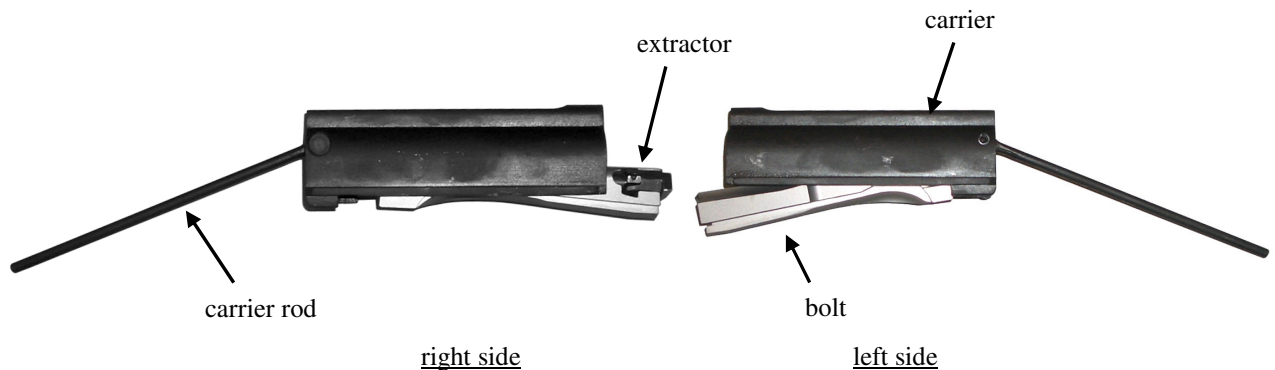


Fig. 6

### 5.2 Bolt Assembly

The bolt assembly consists of the bolt, extractor, extractor spring and locking bar, firing pin, firing pin spring, firing pin retaining pin and bolt carrier. The firing pin traps the firing pin spring in the bolt and is retained in the bolt by the firing pin retaining pin. The bolt head, with firing pin, is fit and loosely held into the carrier by way of mating features between the bolt and carrier.



### 5.3 Lower Assembly

The lower assembly houses the trigger group components in the lower housing and integrates the locking lever, safety selector lever, buttstock, , hand grip, rear sight, recoil spring and recoil spring tube. The buttstock is fastened to the lower assembly by a screw through a tang protruding from the underside of the lower assembly housing and a special retaining nut threaded through the end cap of the buttstock into the recoil tube housing. The hand grip is fastened to the lower assembly by way of a retaining nut. The recoil spring is held in the recoil spring tube by a retaining bolt. The rear sight is adjustable for windage and range.

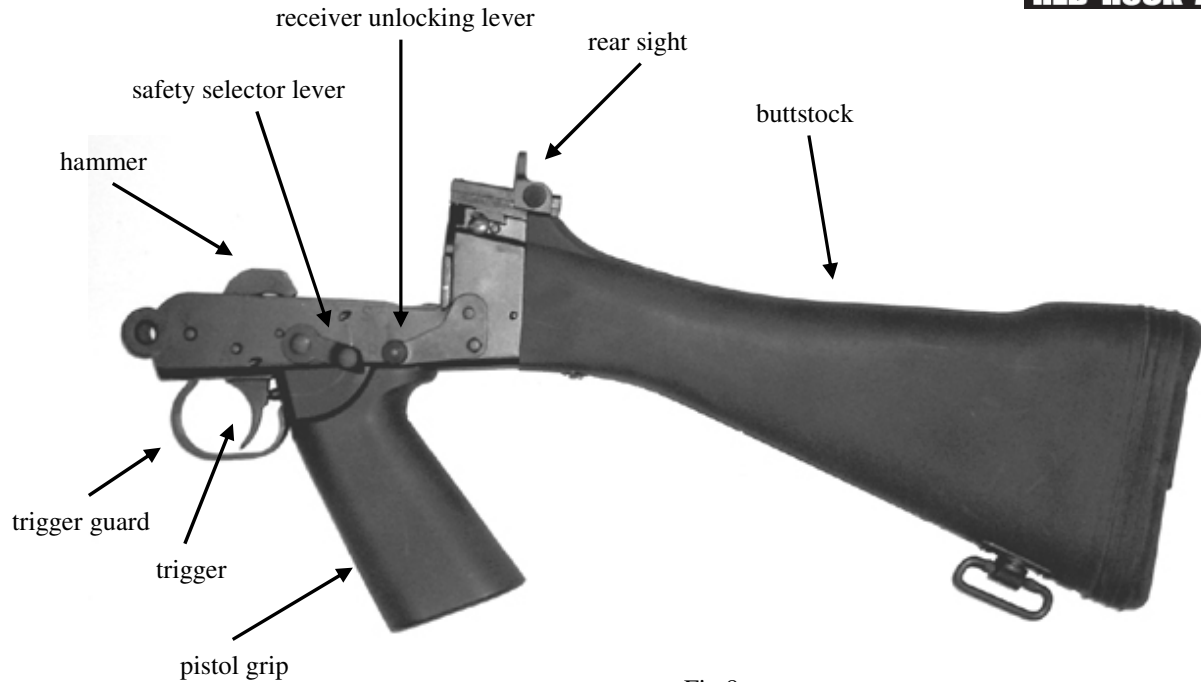


Fig 8

**5.4 Hinge Bolt/Nut (Lower to Upper Assembly)**

The hinge bolt/nut retain the lower and upper assembly through a mating “tongue and groove” like hinge joint. The bolt and nut when tightened allow the upper and lower assembly to hinge open. The joint formed by the bolt, nut, upper assembly “tongue” and lower assembly “groove” is generally loose.



Fig 9

**5.5 Receiver Cover**

The receiver cover fits to the receiver via a groove. It is held to the receiver by a tight sliding fit between the groove in the receiver and projection (tongue) of the receiver cover. The receiver cover is laterally trapped between the front profile of the receiver and upright portion of the lower assembly when the upper and lower assembly is closed and locked.



Fig 10





## 5.6 Magazine

The magazine is a standard AR-15 / M-16 30 round magazine. A 10 round magazine will be shipped upon request to states that restrict magazine capacity to less than 30 rounds. It is locked in to the receiver and released from the receiver via the magazine catch. The magazine is inserted in to the magazine well straight-on rather than at an angle or by rotating it into position.

Fig 11



**NOTE:** Use only high quality magazines that comply to specifications for AR-15 or M-16 magazines. Plastic magazines may not function reliably or fit in the magazine well properly.

## 6.0 Handling and Operation

### 6.1 Safety Lever

The safety lever is located on the left side of the lower assembly and can be set at the “S” for Safe, OR “R” or “A” for Fire (semi-auto, single shot per trigger pull). The position selected is only indicated on the left side of the lower assembly. Each position has a detent. Fig. 12 and Fig. 13

#### Safe Position

Safe: Set safety lever at the “S” detent position. Fig. 12. The trigger cannot be squeezed. However, the firearm can be loaded or unloaded while in the “safe” position.



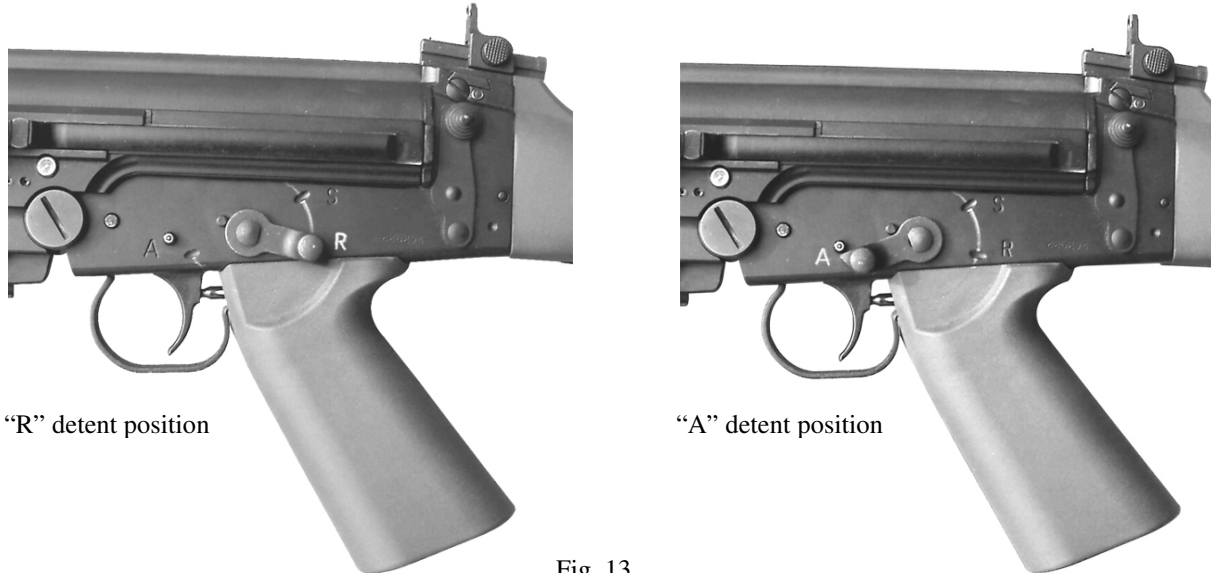
Fig. 12 “S” detent position





Fire Position

Fire: Set the safety lever at the “R” or “A” detent position. Fig. 13. The trigger can be pulled, allowing the rifle to fire (semi-auto, single shot per trigger pull).



“R” detent position

“A” detent position

Fig. 13



**WARNING!** The safety lever should be kept engaged in the “Safe” (“S”) detent position at all times until the rifle is aimed at a proper target and you intend to fire. The rifle may **FIRE** if the safety lever is not **COMPLETELY** in the “Safe” (“S”) detent position.



**WARNING!** The safety lever is a mechanical device that, under some circumstances, can fail to operate properly to keep the firearm from firing. Use the safety lever, but never rely upon it as a substitute for safe firearm handling practices. Follow the safety rules in this manual at all times!

**6.2 “Clearing” (or Unloading) the Firearm**

“Clearing” the ATR1 rifle means unloading it and checking to positively verify that it is unloaded and clear of any ammunition, with the safety lever engaged and the bolt locked to the rear. Thus, the same procedure is used for “Clearing” the rifle as for “Unloading” it. Except when actually being fired or about to be fired at a safe range or other shooting area, the ATR1 rifle should be cleared whenever it is handled, inspected, transported, stored, taken from storage, handed from one person to another, prepared for being field stripped or cleaned.

To “Clear” (or Unload) the ATR1, proceed as follows:



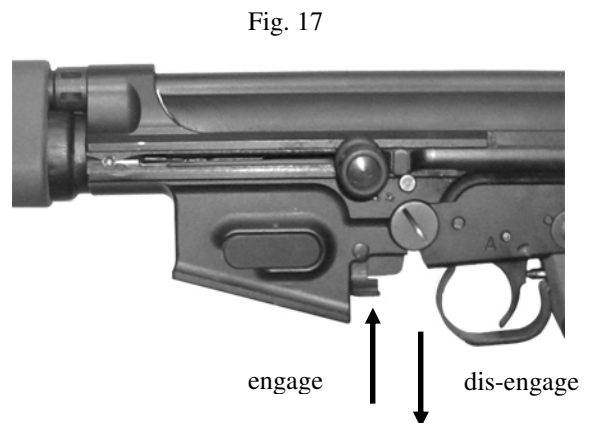
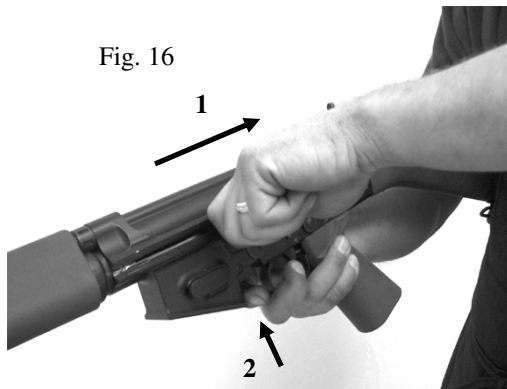
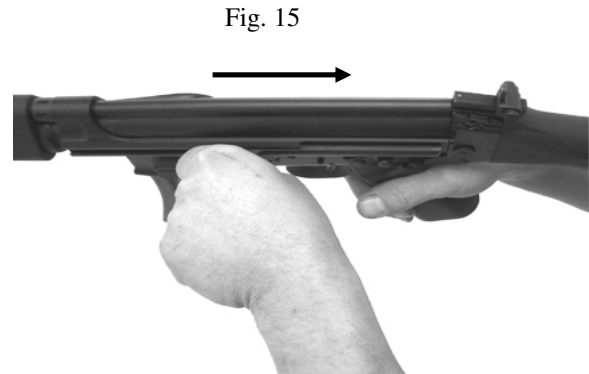
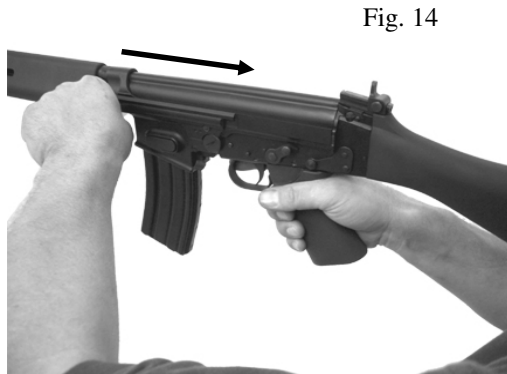
**WARNING!** While “Clearing” the rifle, follow all safety rules in this manual. *Keep the muzzle pointed in a safe direction, and keep your fingers off the trigger and outside the trigger guard!* Failure to do so may result in serious injury or death, due to an accidental discharge of the firearm!

1. Engage the safety lever by placing it in the “Safe” (“S”) detent position. Fig. 12



2. Remove the magazine by depressing the magazine catch and pulling the magazine out of the magazine well.

3. Grasp the Charging Handle (Fig. 14) and pull it all the way to the rear (Fig. 15) while simultaneously engaging the bolt hold open device (Fig. 16 and 17) to extract and eject any cartridge that may be in the chamber and hold the bolt in the open position.



**WARNING!** Do not rely on the extractor of this, or any other, firearm to positively extract any cartridge that may be in the chamber. A worn, faulty or dirty extractor, dirty bolt face, dirty chamber, undersized or defective cartridge may result in the cartridge remaining in the chamber even after the bolt has been pulled to the rear. *ALWAYS confirm that the chamber is empty and free of all ammunition by checking it visually and physically (with a fingertip), as described below! Failure to do so can result in serious injury or death if a cartridge remains in the chamber.*

4. Grasp the Charging Handle and pull it to the rear of the rifle and allow it to snap forward. Pulling the cocking handle to the rear releases the bolt hold open device which allows the bolt to travel all the way forward. *(DO NOT “ride” the cocking lever forward by continuing to hold it, slowing its forward movement, as this can prevent the bolt from closing properly and prevent the extractor from engaging a cartridge which has remained in the chamber.)*



5. **Grasp the cocking handle and pull it all the way to the rear a second time**, while simultaneously engaging the bolt hold open device again. Retracting the bolt a second time in this way is safer than retracting the bolt only once, as it may serve to extract and eject any cartridge which has remained in the chamber the first time (see Step 3 above, including “**WARNING!**”), and can also alert the user that he/she has failed to first remove the magazine, when a second cartridge ejects from the rifle!

6. **Check the chamber VISUALLY to confirm that no cartridge or cartridge case remains in the chamber, and that the chamber is completely empty. NEVER** rely on the extractor to positively extract any cartridge which may be in the chamber - **ALWAYS** check the chamber visually after retracting the bolt. In poor light, you may need to use a flashlight or other light source to check the chamber properly. Also check the magazine well visually, to confirm that the magazine has been removed. **Failure to perform the visual check could result in serious injury or death, if a cartridge is left in the rifle by mistake!**



**WARNING!** The chamber, barrel and/or receiver may be hot, if the rifle was recently fired. Allow the rifle to cool to room temperature before physically checking for the presence of cartridge or magazine.

7. **Check the chamber and the magazine well PHYSICALLY (by inserting your finger through the ejection port in the receiver cover and (1) down into the magazine well and (2) sideways into the chamber) to be sure no magazine remains in the rifle and there is no cartridge or cartridge case in the chamber.** This “double check” (physical as well as visual) is important to confirm that the rifle is truly unloaded, and that a cartridge has not been overlooked due to poor light, haste, or inattention. **Failure to perform the physical check could result in serious injury or death, if a cartridge is left in the rifle by mistake!**

8. **Leave the safety lever on “Safe” (“S”) detent position, the magazine removed, and the action locked open with the bolt hold open device engaged.** The ATR1 rifle is now “Cleared.” Despite the fact that it has been “Cleared,” continue to follow all safety rules in this manual, including treating it as you would treat a loaded firearm, and pointing it in a safe direction at all times.



**WARNING!** Follow the above “clearing” (unloading) procedures exactly and carefully! Failure to do so can result in serious injury or death if a cartridge is left in the rifle.

### 6.3 Filling and Emptying the Magazine

#### Filling the Magazine

Hold the magazine in one hand with the front of the magazine (more open end) pointing in a safe direction (away from your self and others). With the other hand put a cartridge in the magazine opening with the tip of the bullet pointing forward, toward the front (more open end) of the opening. Press the cartridge straight down under the magazine lip with your thumb. Repeat with additional cartridges. Do not overfill the magazine or damage to the magazine may result.

#### Emptying the Magazine

Grasp the magazine in one hand, with the bullet end of the cartridge pointing toward your other hand but in a safe direction (away from your self and others). Use either thumb to push the cartridges onto an appropriate surface.



## 6.4 Loading the Rifle



**WARNING!** Follow all safety rules in this manual while loading the rifle, including keeping it **pointed in a safe direction and keeping your fingers off the trigger and outside the trigger guard.** Failure to do so may result in serious injury or death in the event that the gun discharges.



**WARNING!** The ATR1, like many other firearms could possibly discharge when the bolt closes, even without the trigger being pulled! This could occur due to defective ammunition (high primer, etc.) debris on the bolt face, mechanical malfunction, or other causes. To avoid serious injury or death, load **ONLY** while pointing the rifle in a safe direction.

To Load the rifle:

1. **Put the safety lever into the “Safe” (“S”) position! Fig. 12**
2. Pull the charging handle rearward, engaging the bolt hold open device (Fig. 14 thru 17).
3. Insert the filled magazine into the magazine well with the bullet end of the cartridges pointing forward, so that the magazine catch locks the magazine audibly into position. The magazine is inserted in to the magazine well straight-on rather than at an angle or by rotating it into the magazine well. See Fig. 18. Pull downward on the magazine to ensure it is locked in place. See Fig. 19.



Fig. 18

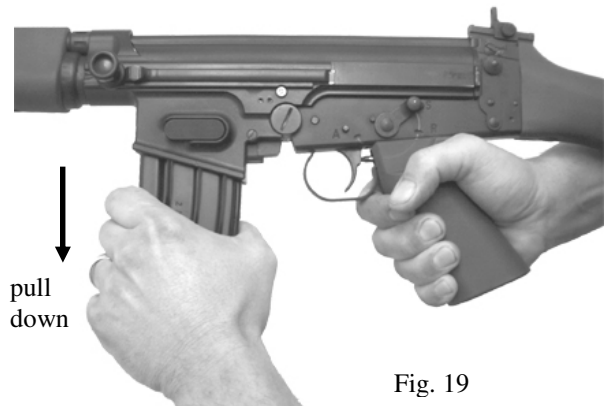


Fig. 19

4. While grasping the magazine, use your thumb to pull down on the bolt hold open device. Fig. 20. This releases the bolt and causes it to snap forward, picking the round out of the magazine, loading it into the chamber and locking the bolt. ALTERNATELY, grasp the cocking handle and pull it to the rear and allow it to snap forward. See Fig. 21 and 22. This releases the bolt hold open device, allows the bolt to move forward, picking the round out of the magazine, loading it into the chamber and locking the bolt. In either case, **DO NOT “ride” the charging handle forward** (That is, **DO NOT** hold onto the charging handle as it moves forward.) “Riding” the charging handle can cause malfunctions in feeding, chambering, locking and firing.

**The firearm is now loaded and in the “Safe” (“S”) position.** When the safety lever is disengaged (switched off of the “S” detent and/or switched to any position off of the “S” detent (“Fire” (“R” or “A”) detent position) and the trigger is pulled, the rifle will fire!



**WARNING!** **How to confirm a round is chambered.** If you wish to positively confirm a round has been chambered, before loading the rifle first check the magazine being inserted to see whether the top round in the magazine is on the right or left side of the magazine lips. Then, after completing the loading operation in accordance with Section 6.4, *remove and inspect the magazine*. If a round has been properly chambered, the top round now visible in the removed magazine will be on the opposite side from the position of the top round before loading. Reinsert the magazine, pushing it upward until it locks in place, and pulling downward on it to be sure it has locked in place. See Fig. 18 and 19.

**CAUTION:** Red Rock Arms recommends that the user SHOULD NOT attempt to confirm that a cartridge is properly chambered by pulling the cocking handle and bolt slightly rearward. If this is done, the bolt may not close completely when the cocking handle is released, causing a failure to fire when the trigger is pulled. Instead, confirm a round is chambered by removing the magazine and checking the position of the top round as described above.

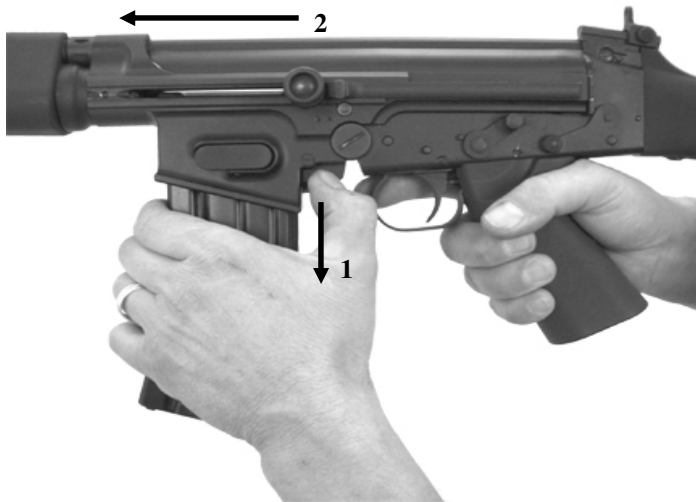
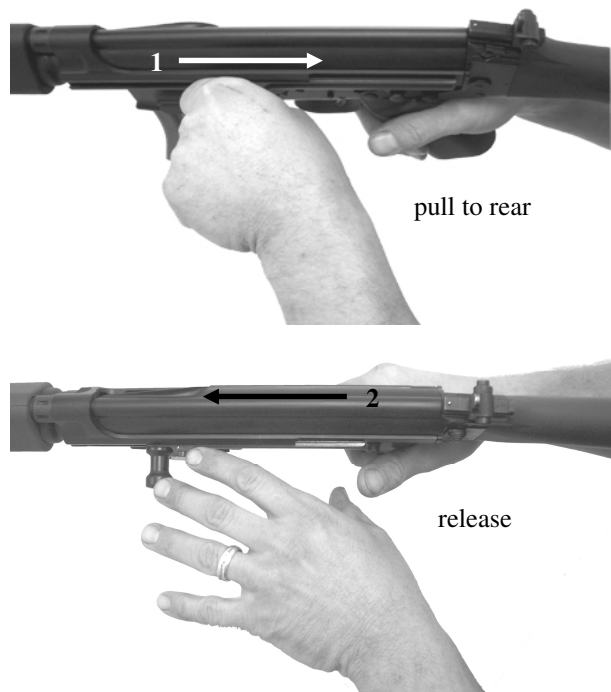


Fig. 20

While grasping the magazine use your thumb to pull down on the bolt hold open device (1) to release the bolt. This releases the bolt and causes it to snap forward (2), picking the round out of the magazine, loading it into the chamber and locking the bolt. **The firearm is now loaded with the safety lever in the Safe ("S") position and ready to fire.**

Fig. 21

**ALTERNATELY:** Grasp the charging handle and pull it to the rear (1) and allow it to snap forward (2). This releases the bolt hold open device and causes the bolt to move forward, picking the round out of the magazine, loading it into the chamber and locking the bolt. **The firearm is now loaded with the safety lever in the Safe ("S") position and ready to fire.**







## 6.5 Firing the Rifle



**WARNING!** Follow all safety rules and procedures in this manual (See especially Sections 1.0 through 1.2). Among other things, **use proper eye and ear protection, keep the rifle pointed in a safe direction at all times, keep the safety lever engaged and your finger off the trigger and outside the trigger guard until the rifle is aimed at a proper target and you intend to fire.** Failure to strictly follow these and the other safety rules in this manual and any accompanying literature can result in serious injury or death.

To fire the rifle, proceed as follows:

1. "Clear" the rifle by following the steps in Section 6.2.
2. Fill a magazine with proper ammunition by following the steps in Section 6.3.
3. Load the rifle by following the steps in Section 6.4.
4. **Before firing, check again to be sure the target and backstop area are safe and free of any people or animals which could be injured by your shot(s), that you and everyone around you are wearing proper eye and ear protection, and that no one is standing to the right of the rifle, where they might be struck and injured by the ejected cases.**
5. Hold the rifle as shown in Fig. 23 out in front of your body, with the butt of the rifle firmly against your shoulder, your strong (dominant) hand grasping the grip of the rifle (with trigger finger outside the trigger guard until you have aimed and you intend to fire), your weak (non-dominant) hand grasping the handguard (with all fingers and thumb on the handguard and away from the front of the muzzle) of the rifle, positioned so you can aim using the sights. **Be careful that no part of your body is near or in front of the muzzle, or in the way of the ejection port from which hot, fired cartridge cases will eject with considerable force when you fire the rifle!**

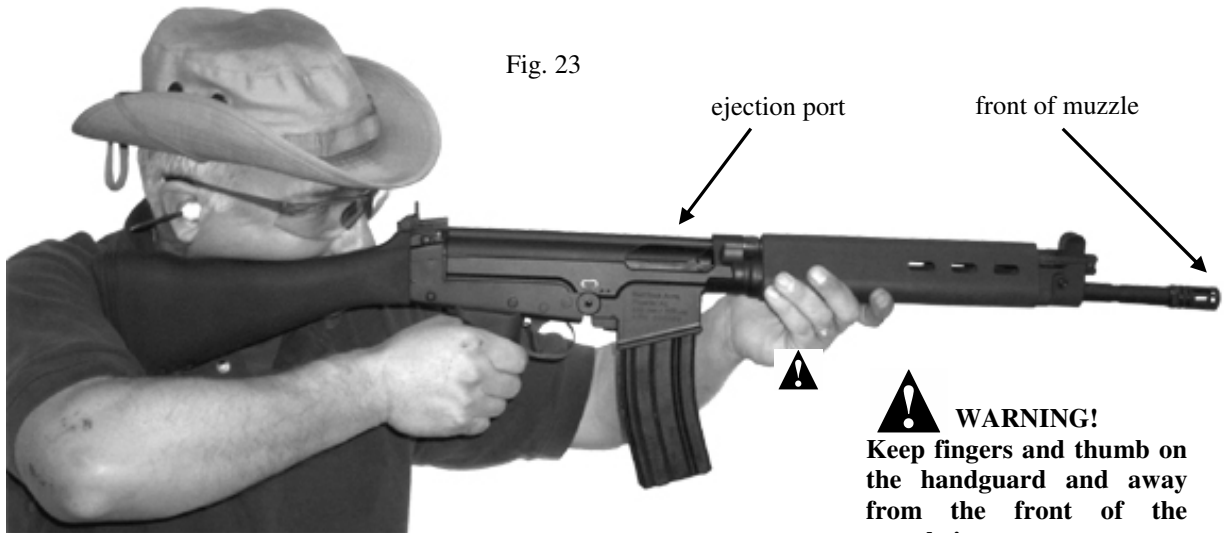


Fig. 23

ejection port

front of muzzle



**WARNING!**  
Keep fingers and thumb on the handguard and away from the front of the muzzle.!



**WARNING!** Keep your fingers and thumb on the handguard and away from the front of the muzzle as shown in Fig. 23, or serious injury, including but not limited to, burning, abrasion or impact from hot metal and residue leaving the muzzle or impact by a bullet that is leaving the muzzle, may occur.



**WARNING!** Depending on the rate of firing and the quantity of cartridges fired, the gas block / barrel area of the handguard and/gas block may become hot enough to burn your hand. Allow the rifle to cool down before continuing to fire.



6. Aim the rifle at the target as described in Section 6.8.
7. Disengage the safety lever by moving it from “Safe” (“S”) to “Fire” (“R” or “A”).
8. Place your finger on the trigger and while keeping the sights aligned on the target, move the trigger smoothly rearward until the rifle fires. The key to accurate shooting is moving the trigger in such a way as not to disturb the alignment of the sights on the target until the rifle fires.

**WARNING!** The ATR1 is a semi-automatic rifle. When you fire it, it will automatically extract and eject the fired cartridge case, and feed a live round of ammunition from the magazine into the chamber. Thus, after firing a shot it will instantly be ready to fire again if the trigger is pulled. ***Be careful!***



9. Repeat step 8 until you have fired the desired number of shots.
10. If a **malfunction** (“stoppage”) occurs while firing, follow the procedure explained in Section 6.7 below.
11. ***Immediately when you are finished firing***, engage the safety lever by moving it to the “Safe” (“S”) detent position, and **UNLOAD the rifle** by following the steps in Section 6.2. While unloading the rifle, and after it is unloaded, continue to follow all of the safety rules contained in this manual, including **keeping it pointed in a safe direction, and keeping your finger off the trigger and outside the trigger guard** at all times.



**WARNING!** Under certain circumstances, ammunition left in a hot chamber can auto-ignite. That is, the residual heat from the chamber can cause direct ignition of the gun powder or primer. Auto-ignition may cause damage to the rifle because the gun powder reacts at an elevated temperature and therefore a higher than normal pressure will result in the chamber and barrel. If the bolt is not closed or not locked closed the resultant auto-ignition **could cause damage to the firearm, serious personal injury or death!** If the bolt is locked closed, the gun will fire propelling the bullet out of the muzzle, **but could result in damage to the firearm, serious personal injury or death** because the rifle will fire unexpectedly and the may not be aimed or under control. **Never leave a live round in the chamber that you do not intend fire immediately.** Follow the procedures for Clearing (or unloading) the rifle in Section 6.2. Circumstances generating enough heat to cause auto-ignition are typically the result of firing a high number of rounds through the rifle within a relatively short period of time.



**WARNING!** Unlike some other firearms, the ATR1 bolt ***DOES lock open automatically when the last round is fired from a magazine.*** However, the shooter should **NOT** depend on the bolt locking open on an empty magazine. Thus, when firing an ATR1 with the bolt closed, it *may or may not have a cartridge in the chamber.* The only way to positively confirm that the chamber is empty is to check it **visually** and **physically** following the “Clearing/Unloading” procedure in Section 6.2.

**How to confirm a round is chambered.** If you wish to positively confirm a round has been chambered, before loading the rifle first check the magazine being inserted to see whether the top round in the magazine is on the right or left side of the magazine lips. Then, after completing the loading operation in accordance with Section 6.4, ***remove and inspect the magazine.*** If a round has been properly chambered, the top round now visible in the removed magazine will be on the opposite side from the position of the top round before loading. Reinsert the magazine, pushing upward and/or rocking the magazine until it locks in place, and pulling downward on it to be sure it has locked in place.

**CAUTION:** Red Rock Arms recommends that the user **SHOULD NOT** attempt to confirm that a cartridge is properly chambered by pulling the cocking lever and bolt slightly rearward. If this is done, the bolt may not close completely when the cocking lever is released, causing a failure to fire when the trigger is pulled. Instead, confirm a round is chambered by removing the magazine and checking the position of the top round as described above.





## 6.6 Malfunctions

Any firearm will, on occasion, malfunction. Malfunctions (or “stoppages”) can include the rifle failing to fire when you pull the trigger (with or without going “click”), failing to extract or eject the fired cartridge case upon firing, “stovepiping” or trapping the fired case in the ejection port, failing to feed a round from the magazine or chamber the round as the bolt moves forward, “double feeding” or feeding two rounds from the magazine at one time, failure of the bolt to close fully, preventing the rifle from firing, or a “squib” (underpowered) cartridge which does not develop sufficient power to cycle the action, **and may leave a bullet lodged in the barrel.**

If you experience a malfunction, **keep the muzzle pointed in a safe direction.** Engage the safety lever by putting it on “Safe” (“S”) detent position. Continue to hold the rifle aimed at the target and backstop for thirty (30) seconds in case you have a “hangfire” (slow or delayed ignition of the cartridge). If the round does not fire within 30 seconds, then **keeping your face (and everyone else’s) away from the ejection port, your fingers off the trigger and outside the trigger guard, and the rifle pointed in a safe direction,** proceed as follows:

1. Remove the magazine (follow steps in Section 5.1 See Fig. 6).
2. Pull the cocking lever rearward to eject the chambered round, engaging the bolt hold device (follow steps in Section 6.2).
3. Inspect the chamber and breech area to be sure there are no cartridges or portions of cartridges remaining there, follow steps in section 6.2. **CAUTION – The chamber, barrel and receiver may be hot.**
4. Then field strip the rifle, following steps in Section 8.0 (through the step of separating the upper assembly from the lower assembly) and look through the bore from the rear to be sure it is not obstructed.
5. Segregate the faulty or damaged round of ammunition for proper disposal in accordance with the ammunition manufacturer’s instructions;
6. If the rifle is free of ammunition, fired cases, other debris or bore obstructions, you may reassemble it, reload it and continue firing following the steps in this manual.



**WARNING!** If you experience a weak report (weak gunshot sound) or unusually light recoil upon firing, you may have fired a “squib” (underpowered) cartridge, **which may have left a bullet lodged in the barrel. STOP FIRING IMMEDIATELY.** Engage the safety lever by moving it to “Safe” (“S”). “Clear” (unload) the rifle following the steps in Section 6.2, leaving the safety lever on “Safe,” the magazine removed, the rifle unloaded, and the bolt hold device engaged. Then field strip the rifle following steps in Section 8.0 (through the step of separating the upper assembly from the lower assembly) and look through the bore from the rear to be sure it is not obstructed. If the bore is unobstructed, you may reassemble and load the rifle and continue firing. If there is an obstruction in the bore, the rifle should be taken to a qualified gunsmith, or returned to the factory, for the obstruction to be removed and the barrel to be inspected for damage before continuing to use the rifle. ***NEVER attempt to “shoot out” an obstruction by firing another cartridge, even a cartridge from which the bullet has been removed, in the rifle. Damage to the rifle, serious injury or death could result!***

**Failure to Eject (FTE)** Most FTEs are caused by fouling, due to the user’s negligence to properly maintain (clean and lubricate) the rifle. Always clean the rifle at the end of the days firing. You may have to clean the rifle more often depending on the amount of ammunition fired through the rifle and the cleanliness of the ammunition. In other words, if ammunition is used that leaves a high amount of residue, the interval between cleanings needs to be decreased. See Section 10.0 Cleaning and Maintenance.



### 6.7 Aiming

Aim at the target by means of the aperture hole of the rear sight and the post of the front sight. Make sure that the target appears to be resting on top of the front sight post and that the front sight post is properly centered in the aperture hole.

Fig. 24 In this sight picture, the front sight post is centered precisely in the aperture hole providing the correct point of aim.

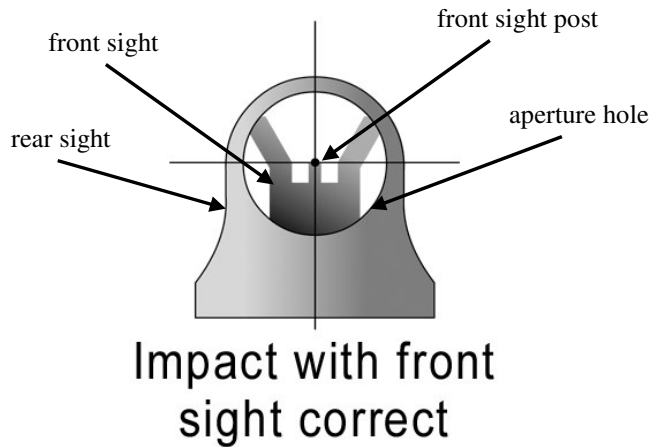
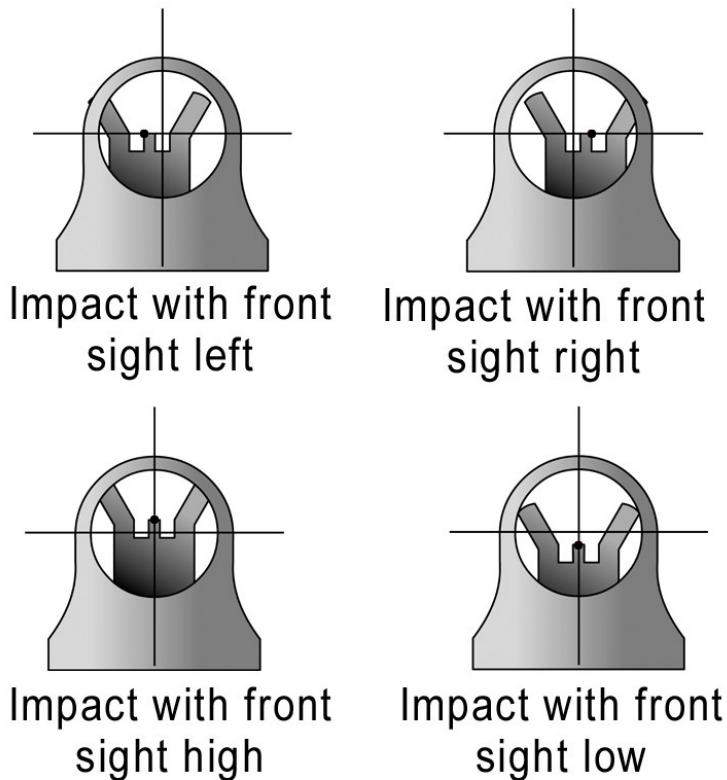


Fig. 25 Aiming errors by not having the front sight post in the center of the aperture hole.





## 7.0 How the Firearm Functions

With a live cartridge in the chamber, the safety selector lever moved from the “S” detent position to the “R” or “A” detent position, the bolt locked behind the cartridge, the trigger is pulled. Through the trigger mechanism, the hammer is released and strikes the rear of the firing pin driving it into the cartridge primer. The cartridge fired. *See Section 6.4 Loading the Rifle and Section 6.5 Firing the Rifle.*

### Gas System

1. The bullet travels down the barrel, propelled by gases and reaches the gas port (in the gas block).
2. As the bullet passes the gas port, propellant gases pass through the gas port, pressurize the gas block and impart force on the gas piston head.
3. Under gas pressure, the gas piston moves rearward and exposes the gas exhaust port.
4. The gas exhaust port on top of the gas block is partially closed by the gas regulator, the position of which indicates the amount of gas exhausted and therefore the amount of travel of the gas piston.
5. As the gas piston travels rearward it contacts the carrier, pushing it to the rear of the receiver.
6. The gas piston spring, compressed by the rearward travel of the gas piston, returns the gas piston to its at-rest position (forward).

### Unlocking the Bolt

7. As the carrier moves rearward, the cams on the shoulders of the carrier engage the cams on the shoulders of the bolt, raising the rear end of the bolt and lifting it out of its locked position against the locking shoulder. The bolt is now unlocked.

### Extraction

8. As the carrier continues moving rearward, the shoulders of the carrier engage the shoulders of the bolt, so that the carrier and bolt travel rearward together.
9. During the bolt travel to rear, the extractor claw withdraws the spent cartridge case from the chamber, holding it in the bolt face.

### Ejection

10. When the bolt face is almost at the same position as the rear edge of the ejection port, the spent cartridge case contacts the ejector which protrudes into the bolt face. The spent cartridge case is thrown out of the ejection port (to the right).
11. The bolt/carrier assembly continues traveling rearward compressing the recoil spring, housed in the buttstock.

### Forward Travel of the Bolt/Carrier Assembly

12. The recoil spring pushes the bolt/carrier assembly forward. Cartridges in the magazine raise under pressure of the magazine spring and the top cartridge feeds into the path of the bolt.
13. The cartridge is directed into the chamber in front of the bolt. The extractor is forced over the rim of the cartridge when the bolt closes on the chamber.

### Locking the Bolt

14. As the front of the bolt touches the breech, the rear of the bolt is forced down by the mating cams of the bolt and carrier.
15. The shoulders of the bolt and carrier engage and the bolt is forced downward. The locking surface of the bolt engaged with the locking shoulder in the receiver.

The live cartridge is loaded into the chamber and the bolt is closed and locked, ready for the trigger to be pulled and another cartridge fired.



**WARNING!** The ATR1 is a semi-automatic rifle. When you fire it, it will automatically extract and eject the fired cartridge case, and feed a live round of ammunition from the magazine into the chamber. Thus, after firing a shot it will instantly be ready to fire again if the trigger is pulled. ***Be Careful!***



## 8.0 Field Stripping

**Put the safety lever on "Safe" by pushing the safety lever to the "Safe" ("S") position!**

1. "Clear" (unload) the rifle and confirm it is unloaded **visually** and **physically** by following the steps of the "clearing" (unloading) procedure in Section 6.2.
2. If you have installed other accessories, remove them now.
3. Remove the magazine. See Section 5.1, Fig. 6.
4. The bolt and carrier should be left in the closed or forward position with the hammer cocked and the safety lever in the safe "S" detent position.

### Stripping the Bolt/Carrier Assembly

Press the receiver locking lever (on the left side, rear of the lower assembly) as far as possible upwards; at the same time press the lower / butt stock downwards. This will swing the rifle open like a shotgun. See Fig. 26. An alternate lower design has a slightly different receiver locking lever than that shown in Fig. 26. Thumb pressure should be exerted rearward to unlock it while swinging the rifle open like a shotgun.

Fig. 26



Remove the Bolt/Carrier Assembly by taking hold of the carrier rod which is hinged to the carrier.

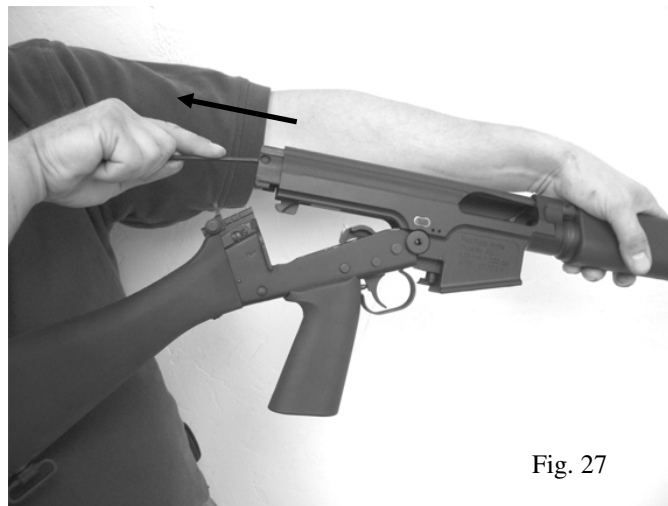


Fig. 27



Fig. 28  
Removing the Receiver Cover  
Slide the receiver Cover to the rear.



Fig. 29  
Separate the Upper Assembly from the Lower Assembly  
Unscrew the Hinge Bolt and remove it. The Upper Assembly will separate from the Lower Assembly.



Fig. 30  
Separating the Carrier from the Bolt  
Disengage the fore part of the bolt from the carrier and continue to separate it with a levering movement against the rear part of the bolt, keeping the thumb on the rear end of the firing pin.



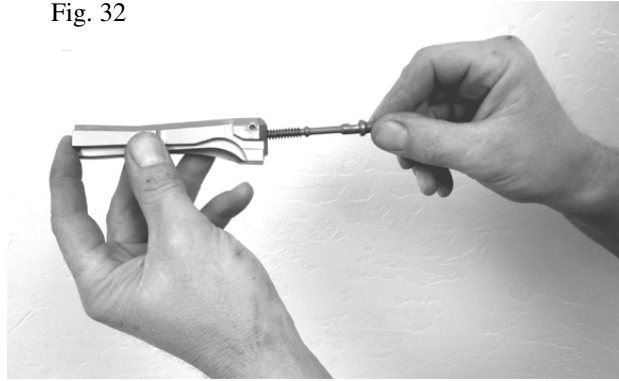
Removing the Firing Pin

Hold the bolt so that the retaining pin will drop out of the bolt when the pressure is exerted on the rear end of the firing pin. Then pull it out the rest of the way. If the pin does not fall out easily, use a small diameter rod to push it out. See Fig. 31. When the retaining pin has been removed, the firing pin will come out of its housing under the action of the firing pin spring. See Fig. 32.

Fig. 31



Fig. 32



Remove the Extractor from the Bolt

This operation requires a special tool that can be purchased from any dealer selling FN FAL tools and accessories. In general, there is no need to remove the extractor other than for a periodic inspection by a qualified gunsmith. It can be cleaned without removing it from the bolt.

Removing the Gas Plug and Gas Piston/Spring

Use your finger or a small diameter rod to depress the plunger while turning the gas plug a quarter of a turn in the clockwise direction. See Fig. 33. In this position, the gas plug will be pushed from the gas block by the piston spring. See Fig. 34. Remove the piston and spring from the gas cylinder. See Fig. 35. Separate the piston from the spring. See Fig. 36.

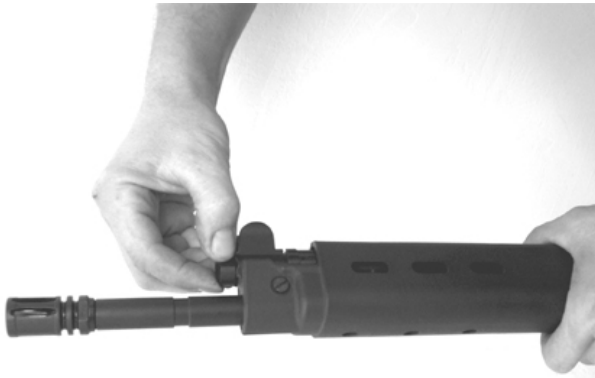


Fig. 33

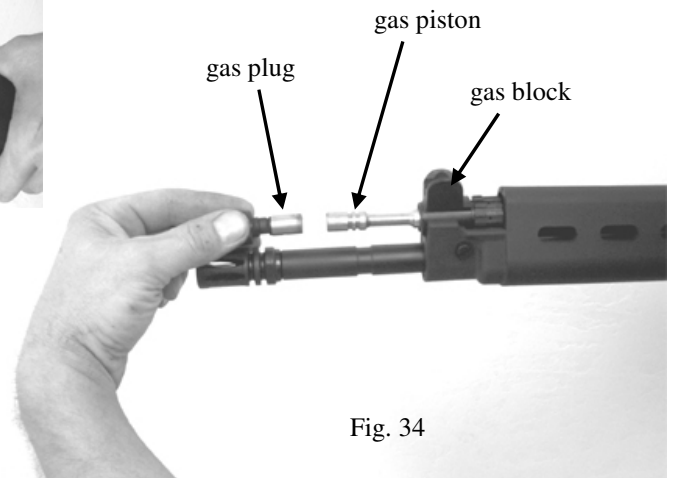


Fig. 34



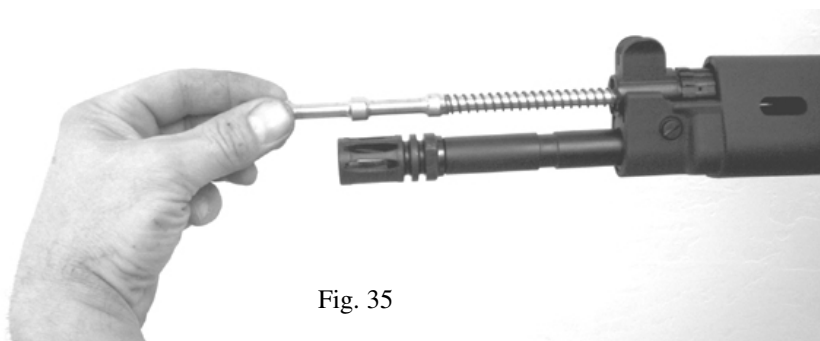


Fig. 35



Fig. 36

Removing the Handguard from the Upper Assembly

Use a straight point screwdriver to unscrew the bolt, and, if necessary a small wrench to hold the self locking nut. Unscrew the bolt and remove it. See Fig. 37. Separate the two halves of the Handguard by splitting them (1). Slide the two halves of the Handguard out of the retaining ring by pulling them towards the muzzle end of the rifle (2). See Fig. 38.

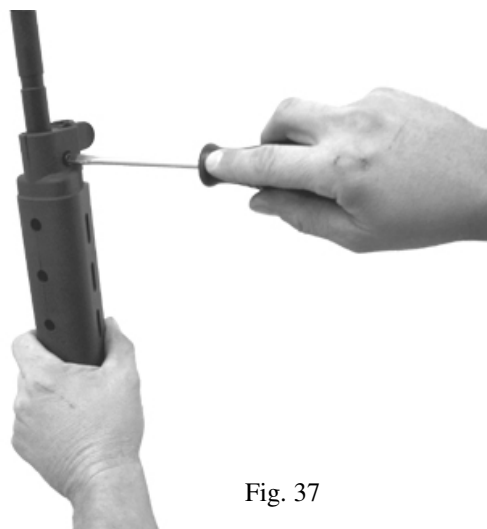


Fig. 37

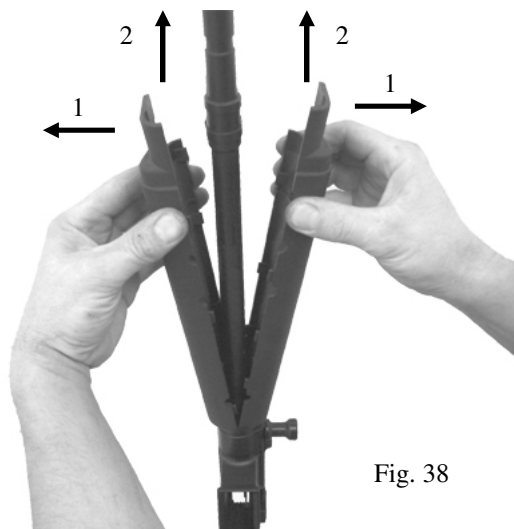


Fig. 38

**9.0 Re-Assembling the Firearm After Field Stripping**

1. Replace the gas piston spring on the piston rod.
2. Replace the piston and its spring in the gas cylinder.
3. Insert the gas plug, compressing the piston spring, with the big end of the plunger turned towards the barrel.
4. When the gas plug is fully home, rotate it one-eighth (1/8) of a turn, counter-clockwise.

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5. Use your finger or a small diameter rod to push the plunger and rotate counter-clockwise the remaining one quarter (1/4) of a turn.
6. Assemble the upper and lower assembly with the hinge bolt/nut. Tighten the retaining bolt until it stops on the shoulder of the nut. DO NOT over tighten. The design of the bolt/nut does not require it to be torqued.
7. Replace the firing pin spring and the firing pin in the bolt; depress the rear of the firing pin, compressing the firing pin spring and replace the firing pin retaining pin.
8. Replace the bolt in the carrier, inserting the rear part obliquely in the carrier. Exert pressure on the bolt so that the firing pin spring is slightly compressed and the bolt is swung in to the correct position in the carrier.
9. Replace the Bolt Carrier Assembly in the receiver, inserting the ribs of the carrier in the corresponding grooves in the receiver. When complete, the bolt should be in its forward position and the muzzle of the rifle pointing downwards; the mechanism will then fall in to position correctly.
11. Insert the ribs of the receiver cover in the corresponding grooves in the receiver and slide the cover fully forward.
12. Close the rifle, still holding the muzzle downwards, to prevent any possibility of the carrier rod protruding.

## 10.0 Cleaning and Maintenance

### 10.1 Periodic Inspection

At intervals of no more than 3500 rounds of ammunition or 5 years, whichever comes first, the rifle requires a full strip, cleaning and inspection by a qualified gunsmith or Red Rock Arms.

### 10.2 Regular Cleaning and Maintenance

This level of cleaning and maintenance should be undertaken after you are finished firing for the day OR when dictated by a build-up of residue.

**CAUTION: ALWAYS** use high quality cleaning and preservative oil specially formulated for firearms. **NEVER** use any ABRASIVE compounds, fluids, media or patch material in the barrel or chamber. Any surface finish change can cause damage to the firearm and injury...etc.

Follow the Clearing Procedure in Section 6.2.

Field Strip the rifle per Section 8.0 for this level of maintenance.

#### Stripped Upper Assembly

Use a barrel cleaning brush (for .223 Remington or 5.56mm) with oil and pass it through the barrel several times.

Pull two or three lightly oiled patches through the barrel until no residue is present.

Pull two or three DRY patches through the barrel.

Clean the chamber, rear of the barrel (breech) and especially concentrate on the clearance slot cut in the rear of the barrel (breech) for the extractor with an oiled cleaning brush. Wipe the chamber with a lightly oiled patch until no more residue is present. Use DRY patches to remove excess oil from the chamber.

Clean the receiver with a lightly oiled patch (an oiled cleaning brush may be used to remove heavy deposits).

#### Bolt/Carrier Assembly

Clean the bolt, carrier, firing pin and firing pin spring with lightly oiled patches until no more residue is present. Use a cleaning brush where necessary to remove residue from all surfaces and crevices.

Clean the underneath of the extractor claw **without** stripping it from the bolt and the bolt face with an oiled cleaning brush. Use DRY patches to remove excess oil from all surfaces and crevices.

Visually inspect the firing pin for excessive deformation or burrs on the spherical end as well as the end of the firing pin that the hammer strikes. There is some deformation allowed on the end of the firing pin where the



hammer strikes. The spherical end of the firing pin should be smooth and of the correct profile (0.090 inch spherical radius).

## Gas System

Carefully clean the gas plug, the gas piston and its spring with a slightly oiled patch and/or oiled cleaning brush. Clean the gas cylinder and wipe the inside diameter (bore) with a slightly oiled patch.

These parts are subject to gas fouling, especially when high residue ammunition or high quantity of ammunition is fired through the rifle in a short period of time. Residue build-up on outside diameter of the gas piston or the inside diameter (bore) of the gas piston tube will cause FTE.

Use DRY patches to remove excess oil from the bore and all surfaces.

Very slightly oil the moving parts of the Bolt Carrier Assembly.

## **10.3 Preparation of the Rifle BEFORE Firing**

The ATR1 fires with very little lubrication. Before firing, wipe off any excess oil remaining on the barrel, gas block, gas cylinder bore, gas plug, barrel chamber and bolt face.

### Slightly Oiled or Left Slightly Oiled

- Inside of Carrier
- Bolt at the locking shoulders
- Receiver at the bottom and along the carrier ribs and receiver grooves.
- Bolt Hold Open Device

### Left Dry or Wiped Dry Before Firing

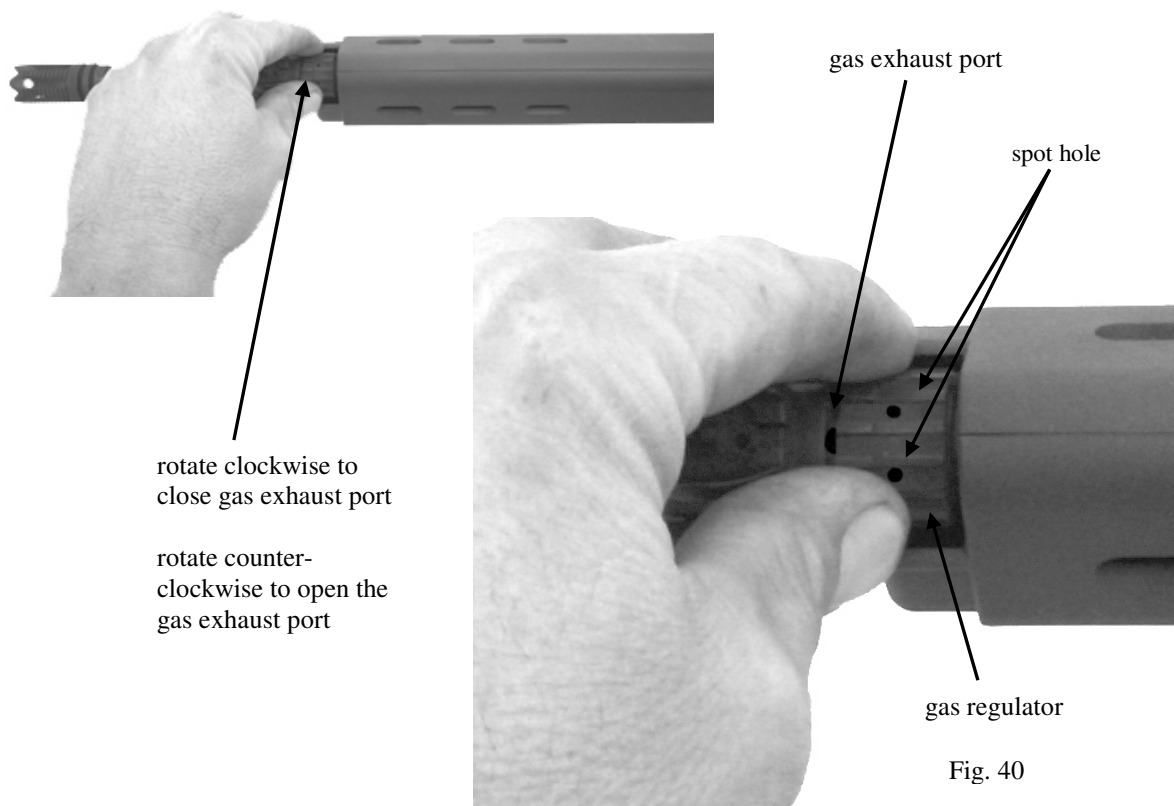
- Barrel
- Gas Cylinder
- Gas Piston
- Gas Plug
- Out Surface of Carrier
- Bolt Face
- Magazine
- Magazine Catch
- Front and Rear Sights

## **11.0 Setting the Gas System**

The rifle has been adjusted for nominal .223 Remington and/or 5.56mm ammunition at the factory. Use of significantly different ammunition may require adjustment of the gas regulator. The gas regulator can be adjusted by hand or with a special spanner tool available at any dealer selling FN FAL tools.

There are several ways of finding the correct adjustment but the following method proved to be the best.

1. Insert an empty magazine in the rifle.
2. Each round fired is carried out by inserting a cartridge by hand (of the type you plan to shoot) in to the empty magazine or chamber, through the ejection opening in the receiver cover. ALTERNATELY, you can remove the magazine, load a single and insert the magazine in to the receiver. Follow steps in Section 6.4.
3. The correct setting is determined by the point at which the bolt hold open device engages the bolt/carrier assembly and holds it to the rear, or fails to do so.
4. After rotating the gas regulator clockwise, down against the gas block (See Fig. 39), rotate it counter-clockwise by one complete turn (360 degrees) so that the figure "7" or 7<sup>th</sup> spot hole (if the regulator is not numbered) is in line with the axis of the gas exhaust port (See Fig. 40). This is the fully open position, and when a round is fired, causes a "short cycle" identifiable by the bolt hold open device failing to engage the bolt/carrier assembly.



5. Close the gas regulator click by click and fire a cartridge after each click adjustment until the bolt/carrier assembly is held to the rear by the bolt hold open device.
6. Now, verify by firing five (5) cartridges, one after the other, in a way described in step 2.
7. If any shot results in a failure of the bolt hold open device to engage the bolt/carrier assembly, repeat step 5.
8. If is necessary, repeat step 7 until five (5) consecutive shots result in the bolt hold open device holding the bolt/carrier assembly to the rear, five (5) times.

In practice the force and distance at which the spent cartridge case is ejected provides an indication of the gas setting. Typically the spent cartridge case should be ejected between 3 feet and 9 feet from the rifle at approximately 45 degrees to the axis of the rifle. Harsh ejection indicates too much gas and weak ejection indicates too little gas. This is only a secondary check on the gas system setting and should not be used other than for observation.

## 12.0 Adjusting the Sights



**WARNING!** Only adjust the sight when the firearm is unloaded, safety lever is on “Safe” (“S”) and the bolt is locked open by engaging the bolt hold device. Section 6.2 for unloading and/or clearing the rifle.

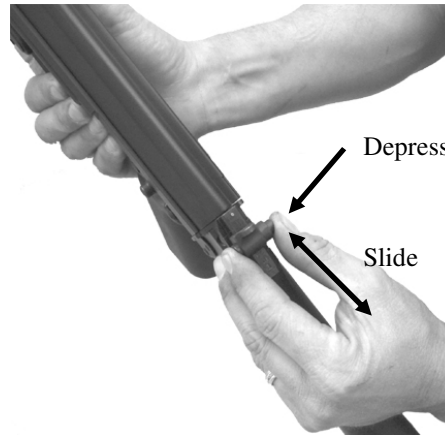
The rifle is bore sighted at the factory, but may require adjustment to suit individual preferences.



Range:

The rear sight can be adjusted by sliding the aperture up and down on its base. Depress the button between your finger and thumb to disengage the detent and then move the aperture along (up and down along the ramp of the base) to adjust the elevation.

Fig. 41 Range Adjustment.



Elevation:

The front sight post is rotated clockwise to move the Point of Impact (POI) up and counter clockwise to move the POI down. The front sight post is located in place by a spring detent which indexes on 16 equal divisions.

Windage:

Moving the rear sight left or right will correct for windage. If the POI is to the right of the point sighted, the screw on the left side of the rear sight should be loosened and the screw on the right side of the rear sight should be tightened. This will move the rear sight laterally to the left. Tighten the screw on the left side first, then tighten the right screw when the correction has been made. When the POI is to the left of the point sighted, the rear sight must be moved to the right. A movement of one (1) division or click is equal to a change in POI (right or left) of 0.39 inch at 109 yards (1cm in 100m).

Fig. 42 Windage Adjustment.



**13.0 Technical Data**

Caliber	.223 Remington and 5.56mm
Twist Rate	1 revolution in 9 inches of travel
Magazine Type	AR-15 / M-16
Front Sight	Post - adjustable elevation
Rear Sight	Aperature - adjustable range and windage
Finish	DuraCoat brand paint
Barrel	½-28 TPI threaded barrel with protector or flash hider

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fax: 350.206.5274



### 13.0 Technical Data (continued)

**Lengths**

Firearm 37 inch w/o flash suppressor  
 Sight Radius 23 inch  
 Barrel 16.25 inch

**Weights**

Firearm; w/o magazine 8.0 lbs.  
 Magazine, 30 rounds 4 oz.

### 14.0 Accessories and Compatibility

The ATR1 is based upon the metric FN FAL. Therefore, some accessories, components, parts and/or assemblies that are compatible with the metric FN FAL may be compatible with the ATR1.

<u>Compatible</u>	<u>NOT Compatible</u>
Receiver Cover	Barrel Extractor
Sights	Firing Pin Ejector
Handguard	Magazine Catch Receiver
Pistol Grip	Bolt Hold Open Device Bolt
Buttstock	

The gas system and other components that affect ejection and reloading have been tuned for the .223 Remington and 5.56mm cartridge, therefore, those components are NOT compatible. Contact Red Rock Arms for more information on specific component or accessory compatibility.

Problems or damage caused by the use of non-original equipment manufactured parts and accessories are NOT covered by the warranty.



**WARNING!** The use of non-original equipment manufacturer parts and accessories may adversely affect the function and safety of your firearm. Use of other than Red Rock Arms or a qualified gunsmith to install accessories and/or parts may cause damage to the rifle, serious personal injury or death.

### 15.0 Service

If you have any questions concerning the performance, use, repair or servicing of your ATR1 rifle, please contact the manufacturer at: **DO NOT SHIP FIREARMS TO THIS ADDRESS**

Red Rock Arms  
 Attention: Service Department  
 P.O. Box 21017  
 Mesa, Arizona 85277

Phone: (480) 832-0844  
 Fax: (206) 350-5274  
 E-mail: [info@redrockarms.com](mailto:info@redrockarms.com)

**DO NOT** ship firearms or other product back for service or repair without first obtaining a Return Material Authorization number from Red Rock Arms. Product shipped back without a Return Material Authorization number will not be accepted. **DO NOT** ship from a PO Box or third party shipper location. Ship only from an FFL OR from your home address. We will return ship it to the place it was shipped from as documented by the shipping label, except for a PO Box or third party shipper location.

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16.0 Warranty

The firearm has a one (1) year warranty for parts and labor. The receiver has a ten (10) year repair or replacement warranty. Fit and finish unrelated to firearm performance is excluded from warranty. Normal wear and tear is excluded from warranty. Non-original equipment parts and accessories and, problems caused by those parts and accessories are excluded from warranty. Red Rock Arms will activate the warranty upon receipt of an accurately completed Owner's Warranty Activation and Safety Awareness Form within ten (10) business days of the sale.

The Warranty is null and void under the following conditions:

- Abuse, willful damage or damage that arises from the use of the firearm for any purposes other than its intended purpose.
- Modification or alteration other than by Red Rock Arms or a Red Rock Arms approved armorer.
- Improperly performed repair. It is recommended that Red Rock Arms perform all repairs.
- The use of ammunition other than factory commercial .223 Remington or 5.56mm made to SAAMI or NATO specifications. All other ammunition voids the warranty in its entirety.

The Warranty is transferable. The new owner (transferee) must accurately complete an Owner's Warranty Activation and Safety Awareness Form and return it to Red Rock Arms in order to activate the warranty for the new owner (transferee).

Firearm Owner's Responsibility:

- Accurately complete and return an Owner's Warranty and Safety Awareness Form at the time of sale to Red Rock Arms. Receipt of the completed Owner's Warranty Activation and Safety Awareness Form by Red Rock Arms within ten (10) business days of the sale activates the Warranty coverage. The completed form must be on file with Red Rock Arms within ten (10) business days of the sale before the Warranty will be honored.
- The firearm owner must contact Red Rock Arms for a Return Material Authorization (RMA) number and comply with the Warranty-Repair Return Instructions **BEFORE** returning the firearm to Red Rock Arms for any reason, including repair or warranty work. If an RMA does not accompany the firearm, Red Rock Arms will not accept delivery of the firearm.
- Warranty-Repair Return Instructions are available for viewing and as a downloadable file at <http://www.redrockarms.com>, Warranty webpage, Warranty-Repair Return Instructions link, OR by contacting Red Rock Arms.
- The firearm owner must provide for the packaging, shipping and insurance costs associated with return shipping to Red Rock Arms.

Notes: \_\_\_\_\_  
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# ATR1 Rifle Owner's Safety and Instruction Manual



Caliber	.223 Remington or 5.56mm	Lengths	
Twist Rate	1 revolution in 9 inches	Firearm	37 inch w/o flash hider
Magazine Type	AR-15 or M-16	Sight Radius	23 inch
Magazine Capacity	30 round except where prohibited	Barrel	16.25 inch
Front Sight	Post-elevation adjustable	Weights	
Rear Sight	Aperture-Range and Windage adjustable	Firearm w/o magazine	8 lbs.
Finish	DuraCoat brand paint	Magazine 30 round	4 oz. (empty)
Barrel	½-28 TPI threaded barrel w/protector or flash hider		

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