

# Discovery and Maximus .177 and .22 caliber Pre-Charged Pneumatic Airgun OWNER'S MANUAL

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United States of America  
www.crosman.com  
1-800-7AIRGUN (724-7486)

E-BPM-515

**WARNING:** NOT A TOY. THIS AIRGUN IS RECOMMENDED FOR ADULT USE ONLY. MISUSE OR CARELESS USE MAY CAUSE SERIOUS INJURY OR DEATH. MAY BE DANGEROUS UP TO 750 YARDS (686 METERS).

**WARNING:** DO NOT BRANDISH OR DISPLAY THIS AIRGUN IN PUBLIC—IT MAY CONFUSE PEOPLE AND MAY BE A CRIME. POLICE AND OTHERS MAY THINK IT IS A FIREARM. DO NOT CHANGE THE COLORATION AND MARKINGS TO MAKE IT LOOK MORE LIKE A FIREARM. THAT IS DANGEROUS AND MAY BE A CRIME.

YOU AND OTHERS WITH YOU SHOULD ALWAYS WEAR SHOOTING GLASSES TO PROTECT YOUR EYES.  
READ ALL INSTRUCTIONS BEFORE USING.

BUYER AND USER HAVE THE DUTY TO OBEY ALL LAWS ABOUT THE USE AND OWNERSHIP OF THIS AIRGUN.

**WARNING:** THIS PRODUCT CONTAINS ONE OR MORE CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND BIRTH DEFECTS (OR OTHER REPRODUCTIVE HARM.)

**WARNING:** EXPLOSION DANGER. USE ONLY COMPRESSED AIR IN THIS AIRGUN. USE NO OTHER GASSES—INCLUDING OXYGEN, WHICH CAN CAUSE A FIRE OR EXPLOSION THAT MAY RESULT IN SERIOUS INJURY OR DEATH.

REMEMBER, THIS AIR RIFLE IS NOT A TOY. ALWAYS TREAT THE AIR RIFLE AS THOUGH IT IS LOADED AND WITH THE SAME RESPECT YOU WOULD A FIREARM.

**CAUTION:** This airgun has been classified as an adult airgun, and is recommended for adult use only. Because it is considered to be a special-purpose airgun, it is exempt from specific types of trigger pull, safety mechanism and drop tests.

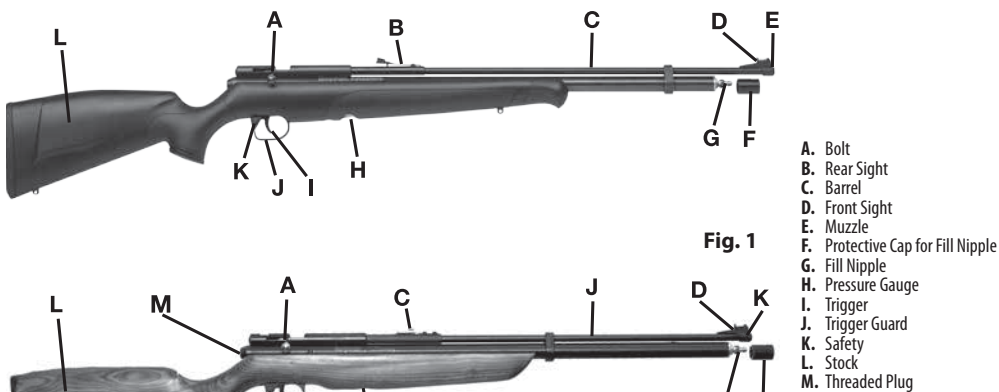
Please read this owner's manual completely. And remember that an airgun is not a toy. Always carefully follow the safety instructions found in this owner's manual and keep the manual in a safe place for future use. If you have any questions about this product or need some help, do not return the product to the store before talking with Crosman. Feel free to visit us at crosman.com, or speak with one of our friendly customer service representatives Monday through Friday between the hours of 8AM and 4:30PM EST at 1-800-724-7486.

## 1. Reviewing Safety

- ALWAYS treat the air rifle as though it is loaded and ready to fire.
- ALWAYS treat the air rifle with the same respect you would a firearm.
- ALWAYS store the air rifle unloaded and away from children.
- ALWAYS aim in a SAFE DIRECTION.
- ALWAYS keep the muzzle of the air rifle pointed in a SAFE DIRECTION.
- ALWAYS keep your finger off the trigger and out of the trigger guard until ready to shoot.
- ALWAYS keep the air rifle "ON SAFE" until you are ready to shoot.
- ALWAYS check to see if the air rifle is "ON SAFE" and unloaded when removing it from storage.
- ALWAYS check to see if the air rifle is "ON SAFE" and unloaded when handling to, or receiving it from another person.
- ALWAYS have you and others wear shooting glasses to protect your eyes.
- ALWAYS wear shooting glasses over reading or prescription glasses.
- ALWAYS place a shooting backstop in a location that will be safe should the backstop fail.
- ALWAYS check your backstop for wear before and after each use. All backstops are subject to wear and will eventually fail. Replace your backstop if the surface is worn or damaged or if a ricochet occurs.
- ALWAYS use proper size ammunition in your air rifle. Check the markings on your air rifle to verify the ammo size.
- NEVER point the air rifle at any person or at anything you do not intend to shoot.
- NEVER reuse ammunition.
- NEVER shoot at hard surfaces or at the surface of water. The pellet may bounce off or ricochet and hit someone or something you had not intended to shoot.
- NEVER attempt to disassemble or tamper with your air rifle. Use an Authorized Service Station. Using an unauthorized service or repair center, or modifying the function of your air rifle in any way, may be unsafe and will void your warranty.
- Store this airgun charged with air to keep the valves closed against dirt.

## 2. Learning the Parts of Your New Airgun

Learning the names and parts of your new airgun will help you understand your owner's manual.



- A. Bolt  
B. Rear Sight  
C. Barrel  
D. Front Sight  
E. Muzzle  
F. Protective Cap for Fill Nipple  
G. Fill Nipple  
H. Pressure Gauge  
I. Trigger  
J. Trigger Guard  
K. Safety  
L. Stock  
M. Threaded Plug

## 3. Operating the Safety

**CAUTION:** Like all mechanical devices, an airgun safety can fail. Even when the safety is "ON SAFE", you should continue to handle the air pistol in a safe manner.

- Locate the safety on the air rifle directly behind the trigger (Fig. 2).
- The words "Push Safe" are on the left side below the safety. The words "Push Fire" are on the right side below the safety. The condition of the safety is indicated by the direction of the safety.

### A. To Put the Airgun "ON SAFE"

- Locate the safety directly behind the trigger.
- Push the safety from the left side in (Fig. 2) for "ON SAFE" until you hear a distinct click.
- The safety is in the SAFE position, and the air pistol is "ON SAFE" when the RED ring is NOT showing.

### B. To Take the Airgun "OFF SAFE"

- Push the safety from the right side in for "OFF SAFE" until you hear a distinct click.
- The safety is in the FIRE position, and the air pistol is "OFF SAFE" when the safety is protruding from the left side of the trigger guard, and the RED ring around the left side of the safety is showing.



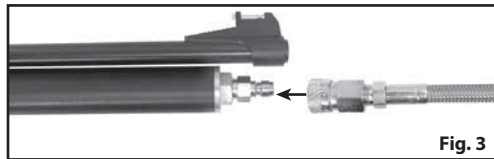
**WARNING:** KEEP THE AIR RIFLE IN THE "ON SAFE" POSITION UNTIL YOU ARE ACTUALLY READY TO SHOOT. THEN PUSH THE SAFETY TO THE "OFF SAFE" POSITION

## 4. Pressurizing the Airgun

This airgun is designed for use at pressures between 1,000 and 2,000 psi depending on how you, as the user, adjust (tune) the gun to work.

**NOTE:** Before firing the airgun make certain there is sufficient pressure for proper operation. The gauge needle should be pointing to the area between 1000 and 2000 psi on the gauge.

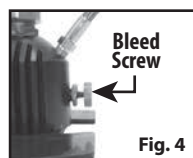
**WARNING:** EXPLOSION DANGER. USE ONLY COMPRESSED AIR IN THIS AIRGUN. USE NO OTHER GASSES—INCLUDING OXYGEN, WHICH CAN CAUSE A FIRE OR EXPLOSION THAT MAY RESULT IN SERIOUS INJURY OR DEATH.



**WARNING:** DISCONNECTING THE FILL HOSE FROM THE AIRGUN WITHOUT BLEEDING THE AIR FIRST MAY RESULT IN INJURY FROM HOSE WHIP AS A RESULT OF PRESSURE IN THE FILL HOSE.

### A. Pressurizing (Filling) the Airgun with a Hand Pump

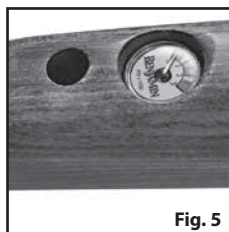
- Be sure to wear eye protection.
- Make sure the air rifle is unloaded and not cocked. (See Section 7B for instructions on unloading and un-cocking.)
- Read all instructions with your hand pump so you are familiar with its operation. Use only a pump designed for filling a pre-charged airgun and outfitted with a Foster #12FS quick disconnect fitting. Do not use a standard air compressor or bicycle pump.
- Make sure air rifle is "ON SAFE" and pointed in a SAFE DIRECTION.
- Pull off the protective cap that covers the fill nipple on the airgun.
- Connect the quick-disconnect fitting on the hand pump hose to the fill nipple (Fig. 3).
- Make certain the bleed valve on the hand pump is fully closed (tighten in a clockwise direction) (Fig. 4).
- Start pumping and continue until the gauge needles on your pump and on the airgun are between 1000 psi and 2000 psi depending on your desired tune.
- DO NOT fill the airgun to more than 2000 psi. See "Overfill" information Section 4C.
- Open the bleed screw on the pump base rapidly in a counter-clockwise direction to COMPLETELY bleed the hose. You must bleed the fill hose COMPLETELY to avoid hose whip from pressure in the fill hose.
- Disconnect the pump from the fill nipple on the gun.
- Replace the cap over the fill nipple and tighten. Always keep the fill nipple capped to eliminate the possibility of dirt entering the check valve.



### B. Pressurizing (Filling) the Airgun with a High Pressure Tank

Your airgun may be filled from a high pressure tank (bottle) like the Benjamin 90 cu in charging system cylinder (81001). Scuba tanks can also be utilized for the task. For scuba tanks use the Crosman FAH003 Scuba Yoke adapter.

- Be sure to wear eye protection.
- Make sure the airgun is unloaded and not cocked. (See Section 7B for instructions on unloading and un-cocking.)
- Read all instructions with your tank so you are familiar with its operation.
- Make sure air rifle is "ON SAFE" and pointed in a SAFE DIRECTION.
- Pull off the protective cap that covers the fill nipple on the airgun.
- Connect the quick-disconnect fitting on the adaptor's hose to the fill nipple (Fig. 3).
- Slowly open the valve on your tank and start filling the gun SLOWLY. Filling too quickly will cause heat buildup that can affect accuracy of the fill pressure.
- Watch the gauges on the airgun and your tank (if equipped) until the desired pressure is reached (1000-2000 psi).
- DO NOT fill the airgun to more than 2000 psi. See "Overfill" information in Section 4C.
- Turn the valve on your tank off when the desired fill pressure is reached.
- BLEED the fill hose COMPLETELY to avoid hose whip from pressure in the fill hose.
- Disconnect the tank's fill hose from the fill nipple on the airgun.
- Replace the cap over the fill nipple and tighten. Always keep the fill nipple capped to eliminate the possibility of dirt entering the check valve.



**TIP:** If your airgun is being filled from completely empty (zero pressure) the tension of the hammer pressing against the valve may keep the valve open which will cause air to leak down the barrel. This is most likely to happen with a gun tuned for high fill pressures, where the hammer spring preload is adjusted to a high rate. In the event this occurs, try cocking the bolt and leaving it in the rear (fully open) position to eliminate the force on the valve allowing it to close. Always make certain the airgun is not loaded and there is not a pellet in the chamber.

## C. Overfill

- Over filling beyond the "as tuned" best fill pressure does not improve performance. It will actually lessen performance and may cause the valve to lock. If you discover that the airgun has been over filled, try to dry fire the airgun (cock and shoot with no pellet loaded) in a SAFE DIRECTION until pressure on your airgun drops to 2,000 psi or less depending on where your gun's tuned best fill pressure is.
- If the airgun will not discharge air with each shot, the valve may be completely pressure locked and will require use of the degassing tool (Sold Separately at Crosman.com). Follow the instructions included with the degassing tool to fully or partially depressurize the airgun.

## 5. Depressurizing the Airgun

Your airgun, like most PCP airguns, is best stored with some pressure in the reservoir. This keeps the seals in the airgun forced against the sealing surfaces. In the event you want or need to depressurize (e.g. for service) follow the following steps:

### A. Dry Fire Method

- Keep the air rifle pointed in a SAFE DIRECTION.
- Remove all the air from your air rifle by repeatedly cocking and dry-firing (with the air rifle pointed in a SAFE DIRECTION) until the pressure gauge on your airgun shows no pressure and air cannot be heard when the shot is fired.
- Put the air gun "ON SAFE".

### B. Degassing Tool Method (FOR DISCOVERY AIR RIFLE ONLY)

**WARNING:** PERFORMING THE FOLLOWING PROCEDURE WILL EXHAUST AIR FROM THE BARREL AT A HIGH RATE AND COULD DISCHARGE A PELLET THAT IS CHAMBERED. ALWAYS MAKE CERTAIN THE AIRGUN IS POINTED IN A SAFE DIRECTION.

**CAUTION:** Before inserting the degassing tool make sure the airgun is NOT cocked. Failure to do so WILL cause damage to the sear mechanism in the trigger.

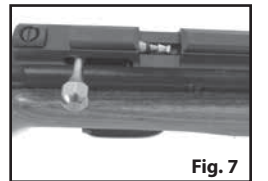
- Make certain the airgun is not in the cocked position by:
- Make sure air rifle is "ON SAFE" and pointed in a SAFE DIRECTION.
- Closing the airgun bolt by pushing forward and latching.
- Pulling the trigger.
- Insert the degassing tool (Sold Separately at Crosman.com) into the threaded plug as shown in Figure 6.
- Turn the tool into the airgun in a clockwise direction until resistance is felt. This will indicate the nose of the tool has come in contact with the internal valve.
- Using an Allen wrench or screwdriver through the hole in the degassing tool apply leverage to turn the tool and force the internal valve open. This may require approximately 1-2 complete turns to totally degas the airgun.
- Remove the degassing tool completely from the airgun. Leaving the tool in the airgun will interfere with the normal operation of the firing mechanism.
- Cock the airgun and dry-fire (no pellet) in a SAFE DIRECTION to make certain all pressure has been relieved from the airgun.
- Check the gauge to make certain all pressure has been relieved from the airgun.



## 6. Loading the Airgun

**CAUTION:** The air rifle was designed to function best with BENJAMIN® and CROSMAN® lead airgun pellets.

- Use of other ammunition may cause the gun to malfunction and could cause damage to the airgun.
- Never reuse ammunition.
- Review the entire manual, including the section on Safety, before firing your air rifle.
- Make sure air rifle is "ON SAFE" and pointed in a SAFE DIRECTION.
- Open the bolt by pulling the bolt handle all the way back (Fig. 7).
- With the bolt in the rearward position, place one pellet, nose first, into the loading port (breach). This is a single shot pellet airgun. Load no more than one pellet at a time.
- Lightly push the pellet into the barrel by pushing the bolt handle all the way forward to lock. DO NOT jam the bolt forward. This will damage your airgun.
- Be sure the bolt is completely closed and locked before firing. If it is not closed and locked, the pellet may not be discharged.
- After following these steps and reading the entire manual, including the section on Reviewing Safety, your air pistol is now loaded and ready to fire.



## 7. Un-Loading and Un-Cocking

### A. Unloading the airgun

- The most common way to unload a pellet is to fire your airgun in a SAFE DIRECTION. If a pellet has become lodged in the barrel follow the steps in Section 9 removing a Jammed Pellet.

### B. Un-Cocking

In the event you are finished shooting, un-cock the air rifle by following the steps below:

- Point the air rifle in a SAFE DIRECTION.
- Take the air rifle "OFF SAFE".
- Pull the bolt back to the rear position.
- While firmly holding the bolt in the rear position, pull the trigger.
- Continue to hold the trigger back while sliding the bolt forward to the latched position.
- Release the trigger.
- Put the air rifle on "ON SAFE".
- The air rifle is now ready for storing.

## 8. Adjusting the sights

- The rear sight may be adjusted to shoot higher or lower (elevation). To move the point of impact up, turn the elevation screw clockwise. To move the point of impact down, turn the elevation screw counter-clockwise.
- The rear sight may also be adjusted to shoot right or left (windage). Loosen the windage adjustment screw by turning counterclockwise. Move the sight to the right to move the point of impact to the right. Move the sight to the left to move the point of impact to the left. Tighten the windage adjustment screw by turning it clockwise.

## 9. Removing a Jammed Pellet

**WARNING:** IN THIS PROCEDURE YOU WILL PUT A CLEANING ROD DOWN THE BARREL OF A CHARGED AIRGUN. IT IS EXTREMELY IMPORTANT THAT WHILE YOU ARE DOING THIS THE AIRGUN BE "ON SAFE", POINTED IN A SAFE DIRECTION, BOLT REMAINS IN THE OPEN POSITION AND THAT YOUR FINGER BE KEPT AWAY FROM THE TRIGGER. FAILURE TO FOLLOW THIS WARNING MAY RESULT IN SERIOUS INJURY OR DEATH.

A jammed pellet is usually the result of trying to fire the airgun when the pressure is too low. Before firing the airgun make certain there is sufficient pressure for proper operation, by making sure the gauge needle is pointing to the area between 1000 and 2000 psi.

**CAUTION:** Never look down the barrel to see if a jam has been cleared.

- Make sure the air rifle is "ON SAFE" and pointed in a SAFE DIRECTION.
- Pull the bolt in the rearward position insert a clearing rod of the proper size into the barrel (start at the muzzle). The barrel could be damaged if the proper sized clearing rod is not used.

**NOTE:** The bolt must be cocked and open for the jammed pellet to clear the breach when it is pushed out by the ramrod.

- Push or tap pellet towards the breech end of the barrel until the pellet is extracted from the chamber. Take care not to damage the chamber sealing o-ring. Remove and discard the pellet. Do not reuse that pellet.
- Point the airgun in a SAFE DIRECTION, close the bolt, take "OFF SAFE" and fire.
- Put the airgun "ON SAFE".
- If you are not able to unjam your airgun by following this procedure, take no further action. Crosman Corporation or an Authorized Service Station will unjam your airgun. (No cost during the warranty period)

## 10. Maintaining Your Airgun

**WARNING:** EXPLOSION DANGER. DO NOT INTRODUCE PETROLEUM-BASED LUBRICANTS INTO THE HIGH PRESSURE RESERVOIR, OR IT MAY CAUSE AN EXPLOSION. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN SERIOUS INJURY OR DEATH.

**WARNING:** DO NOT ATTEMPT TO REPAIR THE AIRGUN OR TO DISASSEMBLE TO CORRECT AN OVER FILL OR VALVE LOCK. PARTS CAN FLY FROM THE AIRGUN AT DANGEROUS SPEEDS WHEN IT IS DISASSEMBLED WHILE PRESSURIZED.

- Apply Crosman silicone chamber oil (part number RMCOIL) on the barrel o-ring every 3 months or 500 shots.
- DO NOT MODIFY OR ALTER YOUR AIRGUN. Attempts to modify the airgun in any way inconsistent with this manual may make your airgun unsafe to use, cause serious injury or death, and void the warranty.
- If you drop your airgun, visually check to see that it works properly before you use it again. If anything seems changed, like a shorter or weaker trigger pull, this may mean worn out or broken parts. Call Crosman customer service for assistance before using your airgun again.

## PERFORMANCE

Many factors affect velocity, including brand of projectile, type of projectile, lubrication, barrel condition and temperature. Many factors affect velocity, including brand of projectile and weight of projectile. Your airgun has been designed for quiet shooting. However, when using light weight pellets the sound barrier may be broken resulting in a loud muzzle report. This air rifle was designed to function best with Benjamin® and Crosman® branded ammunition. Use of other ammunition may cause the air rifle to malfunction and could cause damage to the air rifle.

## LIMITED ONE YEAR WARRANTY

This product is warranted to the retail consumer for one year from date of retail purchase against defects in material and workmanship and is transferable. You should retain the original sales receipt as record of date of purchase. If no receipt, the product is warranted for one year from date of manufacture.

## WHAT IS COVERED:

- Replacement parts and labor.
- Transportation charges to consumer for repaired product.

## WHAT IS NOT COVERED:

- Transportation charges to Authorized Service Station for defective product.
- Damages caused by abuse, modification or failure to perform normal maintenance -- see Owner's Manual.
- Any other expense.
- CONSEQUENTIAL DAMAGES, INCIDENTAL DAMAGES, OR INCIDENTAL EXPENSES INCLUDING DAMAGE TO PROPERTY. SOME LOCAL, STATE OR FEDERAL LAWS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

## IMPLIED WARRANTIES

ANY IMPLIED WARRANTIES INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED IN DURATION TO ONE YEAR FROM DATE OF RETAIL PURCHASE. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

To the extent any provision of this warranty is prohibited by federal, state or municipal law, which cannot be preempted, it shall not be applicable. This warranty gives you specific legal rights and you may have other rights, which vary, from state to state.

## STOP - BEFORE YOU RETURN THIS PRODUCT TO THE STORE

Save on gas and avoid the trip back to the store. Contact our Customer Service/Technical Support representatives for information and trouble-shooting help. Call 1-800-7AIRGUN (1-800-724-7486) or find answers to frequently asked questions at www.crosman.com.

## WARRANTY CLAIM AND REPAIR SERVICE

If your air gun needs repair - DO NOT ATTEMPT TO DISASSEMBLE IT! Your air gun requires special tools and fixtures to repair it. Any disassembly or modification not performed by a Crosman Authorized Service Center will void the warranty.

**U.S. Customers** - Contact Crosman Customer Service at 800-724-7486 or email us via www.crosman.com. You will be instructed where and how to send your air gun in for repair under warranty or referred to one of our authorized service centers in your area.

Crosman Corporation  
Attn: Warranty Dept.  
7629 Route 5 & 20  
Bloomfield, NY 14469

Include with your product a copy of your receipt and a brief description of the problem. Be sure to indicate your name, mailing address, email address and telephone number. Allow 2-4 weeks for repairs. We recommend you use a method of shipping that provides you with a tracking number and insurance options. Crosman is not liable for any damaged, lost or stolen merchandise during shipping.

**Canadian Customers** - Contact the Gravel Agency, in Quebec at 866-662-4869.

**Outside U.S. Customers** - Please contact your point of purchase dealer/distributor. If you do not know your dealer/distributor, contact our International Dept. for assistance at 585-657-6161 or email us via www.crosman.com.

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