

Discovery
 .177 and .22 caliber
Pre-Charged Pneumatic Airgun
OWNER'S MANUAL
READ ALL INSTRUCTIONS AND WARNINGS IN THIS
MANUAL BEFORE USING THIS AIRGUN

Crosman Corporation
 7629 Routes 5 & 20
 East Bloomfield, NY 14443
 www.crosman.com
 1-800-7AIRGUN (724-7486)

BP177-515

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 600 yards (549 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.

THIS AIRGUN IS INTENDED FOR USE BY ADULTS ONLY

WARNING: Lead pellets. Do not inhale dust or put pellets in mouth. Wash hands after handling. This product contains lead, a chemical known to the State of California to cause cancer and birth defects (or other reproductive harm).

WARNING: Use only compressed air in this airgun. When using Crosman's optional CO2 adapter, you may use CO2. Use no other gasses—including oxygen, which can cause a fire or explosion that may result in serious injury or death.

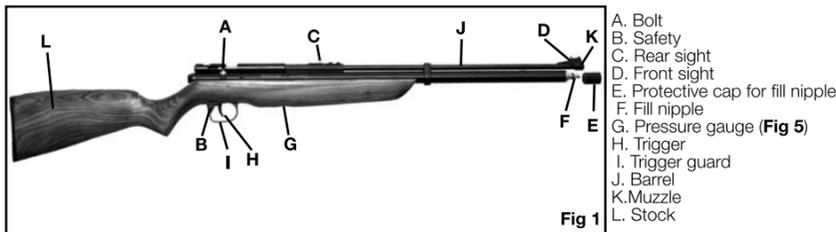
Please read this owner's manual completely. And remember that an airgun is not a toy. Always carefully follow the safety instructions found in this owner's manual and keep the manual in a safe place for future use. If you have any questions regarding the operation of your new airgun, please contact Crosman at 1-800-724-7486.

Operating procedures

1. Learning the Parts of Your New Airgun
2. Operating the Safety
3. Pressurizing and Depressurizing the Airgun (Section 3)
4. Cocking, Loading, Unloading and Uncocking the Airgun
5. Aiming and Firing Safely
6. Removing a Jammed Pellet
7. Maintaining Your Airgun
8. Reviewing Safety

1. Learning the Parts of your New Airgun

Learning the names and parts of your new airgun will help you understand your owner's manual. Graphic of airgun with following parts labeled:



Your new airgun is unique because it operates on either compressed air or CO₂. To fill and shoot with CO₂, an optional CO₂ fill adapter must be purchased. This owner's manual describes operating the gun with compressed air only. The manual that comes with Crosman's CO₂ adapter describes operation on CO₂.

2. Operating the Safety

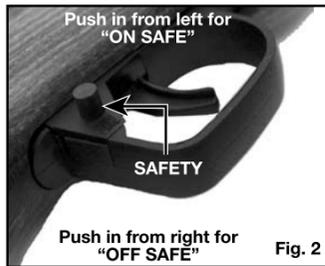
A. To Put the Airgun "ON SAFE"

- Locate the safety directly in back of the trigger.
- Push the safety from the left side all the way in (Fig. 2). The safety is not "ON SAFE" unless it is pushed all the way in and the RED ring around the left side of the safety is NOT showing.

Like all mechanical devices, an airgun safety can fail. Even when the safety is "ON SAFE", you should continue to handle the airgun safely. NEVER point the airgun at any person. NEVER point the airgun at anything you do not intend to shoot.

B. To Take the Airgun "OFF SAFE"

- Push the safety from the right side all the way in.
- The airgun is ready to fire when "OFF SAFE." When you can see the RED line on the left side of the safety, the airgun is "OFF SAFE" and can be fired.



3. Pressurizing and Depressurizing the Airgun

A. Pressurizing (Filling) the Airgun

[NOTE: Operation instructions for CO₂ operation are contained in the manual that comes with the CO₂ adapter]

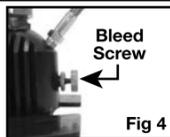
WARNING: Use only compressed air in this airgun. When using Crosman's optional CO₂ adapter, you may use CO₂. Use no other gasses, including oxygen, which can cause a fire or explosion that may result in serious injury or death.

- Be sure to wear eye protection
- Make sure the airgun is unloaded and not cocked. (See step 4B. for instructions on uncocking and unloading.)
- Read all instructions with your high pressure hand pump so you are familiar with its operation. Use only a pump designed for filling a pre-charged airgun. Do not use a standard "shop air" compressor as these types of air compressors cannot produce the high pressures required to operate the airgun.
- Put the airgun "ON SAFE" (see step 2A).
- Point the airgun in a SAFE DIRECTION.
- Remove the 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).
- Pressurize the airgun by pumping and continue until the gauge on the pump and the gauge on the airgun are at 2,000 psi.



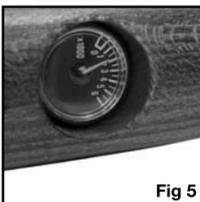
DO NOT fill the airgun to more than 2000 psi. See "Overfill" information below.

- Open the bleed screw on the pump base in a counter-clockwise direction to bleed the hose.
- Disconnect the pump from the fill nipple.
- Place the cap over the fill nipple. Always keep the fill nipple capped to eliminate the possibility of dirt entering the check valve.



Over Fill

- This airgun is designed for optimal performance at a pressure no greater than 2,000 psi. Over filling 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.
- If the airgun will not discharge air with each shot the valve may be locked. In this case, contact Crosman Customer Service at 1-800-724-7486.



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.

B. Depressurizing the Airgun

- Keep the rifle pointed in a SAFE DIRECTION (see section 5A)
- Remove all the air from your rifle by repeatedly cocking and dry-firing with the rifle pointed in a SAFE DIRECTION (see step 5A.) until the pressure gauge on your airgun shows no pressure on the gauge and air cannot be heard when the gun is dry fired.
- Put the air gun "ON SAFE".
- If the pressure in the gun cannot be relieved by using the dry firing process it may indicate a valve lock condition. Contact Crosman customer service.
- Alternatively, a special tool (Crosman part number PCPDT1) is available that will de-pressurize the gun. Contact Crosman customer service for information.

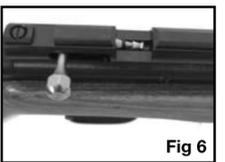
4. Cocking, Loading, Unloading and Uncocking the Airgun

WARNING: Use .177 caliber pellets only in your .177 caliber Benjamin Discovery and .22 caliber pellets only in your .22 caliber Benjamin Discovery. Never reuse ammunition. Use of any other ammunition can cause injury to you or damage to the airgun.

A. Cocking and Loading Pellets

- Put the airgun "ON SAFE." (See Section 2A)
- Point the airgun in a SAFE DIRECTION.
- Be sure your airgun is properly pressurized (see section 3).
- Open the bolt by pushing the bolt handle up and pulling it all the way back until you hear two clicks.

- With the bolt in the rearward position, place one pellet, nose first, into the loading port (breach) (fig. 6). This is a single shot pellet airgun. Load no more than one pellet at a time.
- Lightly push the pellet into the barrel by closing the bolt and pushing the bolt handle down to lock. DO NOT jam the bolt forward. This will damage your airgun.
- Be sure the bolt is closed and locked before firing. If it is not closed and fully locked, the pellet may not be discharged.



B. Unloading Pellets and Uncocking Your Air Gun

Unloading

- The most common way to unload a pellet is to fire your airgun in a SAFE DIRECTION following Section 5 on Aiming and Firing Safely. If a pellet has become lodged in the barrel follow the steps in section 6 Removing a Jammed Pellet.

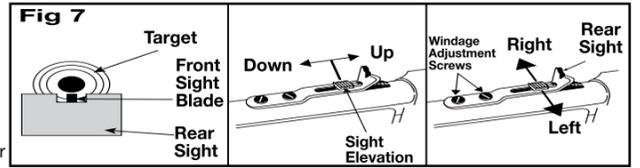
Un-cocking

- To uncock the action, take the airgun "OFF SAFE." With the muzzle pointed in a SAFE DIRECTION, open the bolt and pull all the way to the rear. Holding the bolt handle securely, pull the trigger with your other hand and slowly ease the bolt as far forward as it will go with your hand. You may now lower the bolt and the airgun is un-cocked.
- Put the airgun "ON SAFE".

5. Aiming and Firing Safely

A. Aiming the Airgun

- Always point your airgun in a SAFE DIRECTION.
- Follow the instructions for filling the air gun (section 3A) and loading pellets (section 4A).
- You and others with you should always wear shooting glasses to protect your eyes.
- Do not 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 hit.
- Always choose your target carefully. It is best to shoot at paper bull's-eye targets which are attached to a safe backstop. A heavy blanket should be hung behind the backstop to prevent ricochet should you miss the backstop.
- Your airgun is designed for target shooting and is suited for both indoor and outdoor use. Always remember to place your target carefully. THINK about what you will hit if you miss the target.
- The airgun is correctly aimed when the front sight blade is positioned exactly in the center of the notch of the rear sight. The top of the front sight blade should be even with the top of the notch in the rear sight. The bulls-eye should appear to rest on the top of the front sight. (Fig 7)



B. Adjusting the sights

- The rear sight may be adjusted to shoot higher or lower (elevation). Move the rear sight elevator back to make pellet hit higher on the target. Move the rear sight elevator forward to make the pellet hit lower on the target. When moving the elevator, slightly lift the rear sight with one hand, and move the elevator with the other hand and reset it on the desired notch.
- The rear sight may also be adjusted to shoot right or left (windage). Loosen the windage adjustment screws by turning them counterclockwise. Move the sight to the right to make the pellet hit to the right on the target. Move the sight to the left to make the pellet hit to the left of the target. Then tighten the windage adjustment screws by turning them clockwise.

6. Removing a Jammed Pellet

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. The gauge needle should be pointing to an area in the green zone on the gauge (see Figure 5).

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 that the airgun be "ON SAFE", the bolt remain in open position and that your finger be kept away from the trigger. Always keep the airgun pointed in a safe direction. Failure to follow this warning may result in serious injury or death.

- Point the airgun in a SAFE DIRECTION.
- Put the airgun "ON SAFE".
- Open the bolt by pushing the bolt handle up and pulling it all the way back until you hear two clicks.
- With the bolt in the rearward position insert a ramrod of the proper size into the barrel (start at the muzzle). The barrel could be damaged if the proper sized cleaning rod is not used
- NOTE: The bolt must be cocked and open for the jammed pellet to clear the breech when it is pushed out by the ram rod.
- Using the ramrod push the pellet into the pellet loading port (forward of the bolt), remove and discard the pellet. Do not reuse that pellet.
- Point the airgun in a SAFE DIRECTION, close the action 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)

7. Maintaining Your Airgun

- Put one drop of Crosman silicone chamber oil (part number RMCOIL) on the O-ring on the nose of the bolt every 6 months or every 2,000 shots.
- DO NOT use petroleum-based lubricants with this airgun.
- Keep all petroleum-based lubricants away from the fill nipple. They MUST NOT be introduced into the high pressure chamber. Use of petroleum-based lubricants in this area could result in an explosion resulting in personal injury.
- 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 will 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.

8. Reviewing Safety

- Never point the airgun at any person or at anything you do not intend to shoot.
- Always treat the airgun as though it is loaded and with the same respect you would a firearm.
- Always aim in a SAFE DIRECTION. Always keep the muzzle of the airgun pointed in a SAFE DIRECTION.
- Always keep the airgun on safe until you are ready to shoot.
- Always check to see if the airgun is "ON SAFE" and unloaded when getting it from another person or from storage.
- Always keep your finger off the trigger and out of the trigger guard until ready to shoot.
- You and others with you should always wear shooting glasses to protect your eyes.
- If your reading or prescription glasses are not safety glasses, make sure you wear shooting glasses over your regular glasses.
- Use .177 caliber (4.5mm) pellets only in your .177 caliber Benjamin Discovery or use .22 caliber (5.5 mm) pellets only in your .22 caliber Benjamin Discovery. Never reuse ammunition. Use of any other ammunition can cause injury to you or damage to the airgun.
- Do not 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 hit.
- Place the backstop in a location that will be safe should the backstop fail.
- Your backstop should be checked 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.
- Do not attempt to disassemble or tamper with your airgun. Use an Authorized Service Station. Using unauthorized repair centers or modifying the function of your airgun in any way may be unsafe and will void your warranty.
- Always keep your CrosBlock® trigger block in place when storing this airgun. Store the airgun in a secure location. (See CrosBlock instructions packaged with this airgun for assistance)
- Before you store your airgun make sure it is not loaded or cocked. Store this airgun charged with compressed air or CO₂ to keep the valves closed against dirt.
- Whenever you store the airgun, make sure it is "ON SAFE."

SPECIFICATIONS

Mechanism	Bolt action single shot
Power source	Compressed air or CO ₂ (CO ₂ requires an optional fill adapter)
Caliber/ammunition	Model BP1K77 - .177 caliber lead pellet Model BP9M22 - .22 caliber lead pellet
Weight	5.2 lbs
Length	39 inches
Barrel	Rifled steel
Safety	Cross bolt

REPAIR SERVICE

If your airgun needs repair, we recommend you take or send it to your nearest Crosman Authorized Service Station. DO NOT ATTEMPT TO DISASSEMBLE IT! Your airgun requires special tools and fixtures to repair it. Any disassembly or modification not performed by an Authorized Service Station will void the warranty.

A SPECIAL CUSTOMER SERVICE

Crosman Authorized Service Stations will unjam your airgun at no cost during the warranty period.

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. To register the serial number of your airgun, please return the airgun registration form. The warranty is not conditioned on the return of the card. You should retain the original sales receipt as record of date of purchase.

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 STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

HOW TO OBTAIN WARRANTY PERFORMANCE

U.S. Customers- Locate nearest service station (see www.Crosman.com or call Crosman customer service at 800-724-7486 for list of stations). The service station will give you details of how to proceed with sending the item in for repair. You must contact the station prior to shipping your product.

International Customers- Please return product to your nearest distributor. If you do not know your distributor, please call 585-657-6161 and ask for our International Department for assistance.

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 also have other rights, which vary, from state to state.

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BENJAMIN

Three Stage High Pressure Hand Pump

MODEL HPP2K

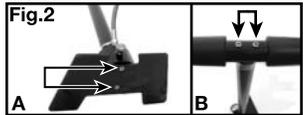
READ ALL INSTRUCTIONS AND WARNINGS IN THIS MANUAL BEFORE USING THIS AIRGUN



HPP2KA515

⚠ WARNING: The HPP2K pump is for use only with pre-charged pneumatic air guns. Do not use on other products.

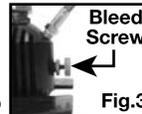
1.0 Assembling the Pump (requires a Phillips screwdriver)



1.1 Attach the base plate to the pump base housing with the 2 flat head screws provided. Position the plate with the countersunk recesses opposite the housing so the screw heads do not protrude above the base plate when secured. Orient the base plate so the direction of the hose is opposite the portions of the base plate that the operator will stand on. See Figure 2A.
1.2 Attach the handle to the top of the tube with the 2 long screws provided. See Figure 2B

2.0 Operation

- 2.1 Attach the hose to the gun to be filled using the quick disconnect coupling.
- 2.2 Close the pump bleed screw on the base of the pump turning in a clockwise direction. (Figure 3)
- 2.3 Pump to fill the air reservoir until the desired pressure is reached. Pressure should not exceed the recommended pressure of the pre-charged pneumatic airgun or exceed the pump rating of 3600 PSI.
- 2.4 Open the pump bleed screw to relieve the pressure in the hose. Air will rush out of a small hole next to the bleed screw and the pressure gauge should read zero.



⚠ WARNING: Do not disconnect the hose under pressure (Gauge indicating higher than 0). Disconnecting the hose under pressure could cause damage to the hose fitting and personal injury to the operator.

- 2.5 Disconnect the hose (**make certain the hose is bled via the bleed screw and the pressure gauge reads 0 before disconnecting**).

3.0 Maintenance and Care of the HPP2K

- The HPP2K pump requires no additional lubrication.
- The pump should be kept dry and clean.
- Store the pump indoors away from extreme temperatures.
- **DO NOT** use solvents of any kind on parts of the pump. Mild household cleaners are acceptable on the painted portions of the pump and handle assembly.
- **DO NOT** wipe off the film of lubricant on the main pump cylinder. It is normal and will serve to lubricate the pump seals and guard against premature wear of the pump seals.

4.0 Trouble Shooting

Problem noticed:

- The pump fails to reach desired pressure.
- Pressure building up and then falling off while pumping.
- Slower than normal build up of pressure (based on prior experience with the pump).

All of the modes described above may be the result of an air leak. To identify the location of the leak perform the following:

- 4.1 Check first that the bleed screw is properly closed.
- 4.2 With the pump attached to the gun and pressure showing on the pump gauge, check for leaks at the hose fittings by applying a small amount of soapy water at the connections.
- 4.3 In the event a leak is detected at a fitting connection, bleed the pressure from the pump and disconnect from the gun. Tighten the leaking hose fitting connection slightly to eliminate the leak.
- 4.4 Reattach the pump and try pressurizing again to detect leaks as described in instruction number 4.2.
- 4.5 If a fitting connection is still leaking after re-tightening, the thread sealant may be damaged. Teflon sealing tape is recommended for use on these fittings. Disassemble the leaking fitting, remove all old sealing tape, then apply 2-3 full wraps of Teflon tape to the male thread. Reassemble, tightening the fitting moderately. Do not over tighten. If a torque wrench is available, torque the fitting to 55 inch lbs.
- 4.6 Reattach the pump and pressurize again to detect leaks as described in instruction number 4.2.

If corrective measures described above fail to eliminate the pump failure, call Crosman customer service at 1-800-7AIRGUN (1-800-724-7486).

Frequently Asked Questions:

Q- Can the pump be used for other filling tasks other than PCP airguns and PCP bottles i.e. bicycle tires, etc.?

A- Crosman does NOT recommend using the pump for applications other than what the pump was designed for. The extreme pressures the pump is capable of producing could cause damage to other pressurized items and personal injury.

Q- How many strokes should it take to fill my Benjamin Discovery to the recommended 2000 psi?

A- In tests performed at Crosman corporation starting with a completely uncharged Discovery airgun, approximately 110 strokes were required to reach 2000 psi. Your results may vary due to factors such as completely performing every pump stroke and seal condition of the pump.

Q- Can I use the pump to bleed air from the pressure tube in my Benjamin Discovery?

A- No, you cannot bleed down the airgun using the pump. A check valve in the gun's fill adapter is activated by pressure in the tube and will not leak back down when the pump is attached.

Q- There is a film of oil on the main pump cylinder. Is the pump leaking?

A- After operating the pump, a film of lubricant will be evident on the main pump cylinder. This is normal and serves as a lubricant to guard the seals against premature wear. DO NOT wipe it off. ONLY wipe off the oil that may accumulate at the union of the cylinder and the pump base.

LIMITED 90 DAY WARRANTY

This product is warranted to the retail consumer for 90 days 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.

WHAT IS COVERED

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

WHAT IS NOT COVERED

Transportation charges to Crosman Corporation. Damages caused by abuse, modification or failure to perform normal maintenance. Any other expense. CONSEQUENTIAL DAMAGES, INCIDENTAL DAMAGES, OR INCIDENTAL EXPENSES INCLUDING DAMAGE TO PROPERTY. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

HOW TO OBTAIN WARRANTY PERFORMANCE

Call Crosman customer service at 800-724-7486 for details on how to proceed with sending the item in for repair. You must contact Crosman prior to shipping your product.

IMPLIED WARRANTIES

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