

**Revolver  
Warranty  
Information  
You can  
shoot it.™**

**WARNING**

You must read this prior to  
construction or shooting.



# Cap 'n' Ball Revolvers

Replicas of original revolvers are as faithful to the original designs as possible. For this reason, replicas cannot be made with many of the refinements and features the shooter has come to expect as standard on modern cartridge firearms.

Each shooter should remember that today, just as in the mid-nineteenth century, there is no way to build a revolver to absolve the user of the need to use good judgement.

When handled properly, a cap'n' ball revolver is a safe and enjoyable firearm to shoot. If abused, harmful consequences can result. Remember, this cap 'n' ball revolver should be treated with the full respect due any firearm.

You should know that the warranty applies only to parts of this product which have not been altered in any way. Therefore, it is important that you take the time to familiarize yourself with each part and its function prior to shooting.

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## **A. IMPORTANT CAUTIONS**

1. Always wear shatterproof glasses and ear protection.
2. Use blackpowder or Pyrodex only.
3. Never fire a revolver unless the ball is firmly seated against the powder charge.
4. Do not exceed recommended maximum powder charges.
5. Never lean over or point muzzle of barrel toward yourself at any time.
6. Treat a misfire or failure to fire as though the revolver can fire at any moment.
7. Handle a cap 'n' ball revolver with same respect due all firearms.
8. Be sure all spectators are completely behind you when shooting. Flames and cap bits sometimes exit to side of the gun.
9. Never smoke while loading, shooting or handling blackpowder or Pyrodex.
10. For safety, always leave one chamber empty. Carry a revolver with the hammer resting on the uncapped nipple of the unloaded chamber.
11. Always be sure to lubricate the chambers of the loaded cylinder with a suitable grease to prevent chain-fires. When aiming a revolver, never place "free" hand in front of cylinder. Possible injury could result in the event of a "chain-fire".
12. If a cylinder with a loaded chamber must be removed, be sure all caps (unfired and fired) have been removed from the nipples.
13. Do not pour powder directly from a horn or flask. An excessive amount of powder could cause an explosion if ignited.

CVA revolvers are packed with a special protective oil on them. This oil will dry and stiffen, resulting in sticking or seemingly “tight” operation of the new revolver when it is removed from the box. To eliminate this effect, break-in your new revolver by cocking it several times and releasing the hammer with the trigger. Do this 10-20 times to work in the oil.

**NOTE:** When pulling the trigger to release the hammer after cocking, do not let the hammer fall on an unprotected nipple. Slowly lower the hammer with your thumb as you would on a modern handgun. This prevents mushrooming of the nipples and damage to the hammer face.

### **Special Instructions for the Colt Walker and Dragoon Models**

To avoid damage to the frames of these hefty revolvers caused by heavier loads, CVA has redesigned the barrel wedge assembly. It is a good idea to always carry a spare wedge assembly for these guns, as the new wedge is designed to wear more rapidly, thus eliminating undue stress on the frame. To avoid damage, the wedge should be replaced every 72 shots when loads exceeding 30 grains of FFFg are used.

## **B. INTRODUCTION TO MUZZLELOADERS**

1. This manual contains instructions, cautions and dangers for the safe use of CVA blackpowder firearms. They should be **FOLLOWED COMPLETELY**.
2. When properly handled, the cap ‘n’ ball revolver is safe and enjoyable to use, if you follow a **FEW BASIC RULES**.

Replicas of original muzzleloading firearms are as faithful to the original designs as possible. For this reason, replicas cannot be made with many of the refinements

and features that are standard on modern cartridge firearms.

Each shooter should remember that now, just as in colonial days, there is no way to build a muzzleloader that absolves the user from the need to use good judgement and safety precautions. When handled properly, a muzzleloader is a safe and enjoyable firearm for shooting and hunting. If abused, harmful consequences can result. Treat this muzzleloading firearm with the full respect due any firearm.

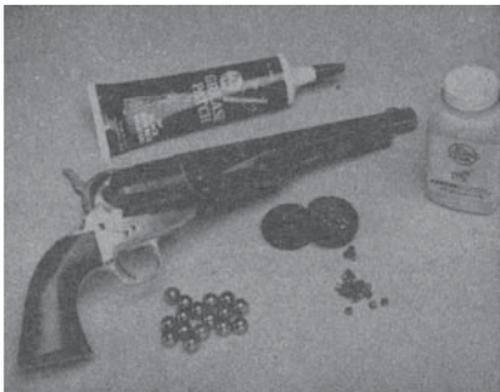
**NOTE:** If, after reading these instructions, you have any questions about the safe use of your CVA firearm, call our Customer Service Department at (770) 449-4687, Monday through Friday, 8:30am - 4:00pm, EST.

**CAUTION:** If you sell, trade, or give this firearm to any other person, this owner's manual must accompany the firearm. Replacement books are available free of charge from CVA.

### **C. BLACKPOWDER & PYRODEX**

Only two types of powder are safe for use in muzzleloading firearms. The first type is **BLACKPOWDER**. The term "blackpowder" does not refer to any powder that is black in color. Many of the smokeless propellants manufactured for modern cartridges or shotgun shells are also black in color, but will create extremely dangerous pressures in muzzleloader barrels.

**DANGER: USE OF SMOKELESS POWDERS IN MUZZLELOADERS WILL CREATE DANGEROUSLY HIGH PRESSURE RESULTING IN DAMAGE TO THE FIREARM AND POSSIBLE INJURY TO THE SHOOTER AND/OR BYSTANDERS.**



Blackpowder is manufactured in four specific types, or granulations. When purchasing blackpowder, be certain that it is in the original manufacturer's container and that the granulation is clearly marked on the label. The four types of blackpowder, along with the common usages of each, are identified below:

**FG-** (commonly called Single "F") The muzzleloading enthusiast finds little use for this very coarse blackpowder. Its use is pretty much restricted to the large bore (10, 8, 4 gauge) of yesterday.

**FFg-** (commonly called Double "F") This is a very popular powder for the larger rifles (.45 to .58 caliber). It is also used for 12, 16, and 20 gauge muzzleloading shotguns. While it is not considered a pistol powder, it is sometimes used in very large caliber single-shot pistols.

**FFFg-** (commonly called Triple "F") Used in all percussion revolvers, most single-shot pistols, and many of the smaller (under .45 caliber) rifles. Also used for target loads in the larger caliber rifles.

**FFFFg-** (commonly called Four "F") The finest grade of all currently available blackpowders, Four "F" is the best for priming flintlocks. Due to its limited uses, it is sometimes hard to obtain.

The second type of powder safe for use in muzzleloading firearms is **PYRODEX**. Pyrodex is a propellant designed for use in percussion rifles, pistols and shotguns

found to be in good shooting condition by a competent gunsmith. Pyrodex relates closely to blackpowder on a volume to volume basis, not the weight of the charge. In other words, a scoop type measure set to dispense 100 grains of blackpowder will dispense roughly 80 grains of Pyrodex (Pyrodex is bulkier). This lighter charge weight of Pyrodex will fill the measure and provide a charge which is ballistically similar to 100 grains of blackpowder of the appropriate granulation. Used in this manner, Pyrodex will yield approximately the same velocities and pressures as blackpowder. Pyrodex is currently available in three granulations. These types and their uses are listed below:

**PYRODEX RS** (rifle & shotgun) Designed for use in all calibers of percussion muzzleloading rifles and shotguns.

**PYRODEX P** (pistol powder) Designed for use in percussion muzzleloading pistols and cap & ball revolvers. Also used in small caliber rifles.

**PYRODEX CTG** (cartridge powder) Designed for use in blackpowder cartridges. This powder is not suited for use in muzzleloading firearms.

### WEIGHT COMPARISON CHART OF EQUAL VOLUMES OF BLACKPOWDER AND PYRODEX

Blackpowder	Pyrodex	Blackpowder	Pyrodex
10 gr.	8 gr.	70 gr.	56 gr.
20 gr.	16 gr.	80 gr.	64 gr.
30 gr.	24 gr.	90 gr.	72 gr.
40 gr.	32 gr.	100 gr.	80 gr.
50 gr.	40 gr.	110 gr.	88 gr.
60 gr.	48 gr.	120 gr.	96 gr.

**DANGER:** BLACKPOWDER, PYRODEX OR ANY OTHER POWDER IS DANGEROUS AND HIGHLY EXPLOSIVE. EXTREME CARE IS REQUIRED WHEN USING A FLASK FILLED WITH POWDER. IT IS POSSIBLE POWDER MAY SPILL OR LEAK FROM THE FLASK AS THE FLASK IS NOT AIR TIGHT. DO NOT USE OR STORE WHERE FLAME OR SPARKS COULD IGNITE ANY POWDER IN THE FLASK OR WHERE POWDER SPILLAGE OR LEAKAGE COULD IGNITE.

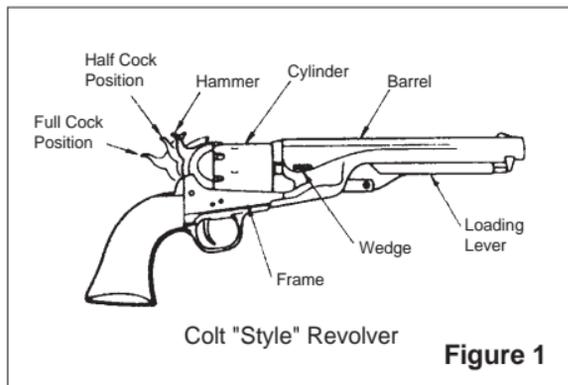
**CAUTION:** NEVER SMOKE WHILE LOADING, SHOOTING OR HANDLING BLACKPOWDER OR PYRODEX. ALWAYS FOLLOW MANUFACTURER'S SAFETY PRECAUTIONS AS LISTED ON THE POWDER CONTAINER.

**DANGER:** MIXING DIFFERENT GRANULATIONS OF POWDER, OR MIXING SMOKELESS AND BLACKPOWDER OR PYRODEX (DUPLIX LOADS) IS NOT RECOMMENDED AND COULD CAUSE DAMAGE TO THE FIREARM OR POSSIBLE INJURY THE SHOOTER AND/OR BYSTANDERS.

#### D. PREPARATION BEFORE LOADING

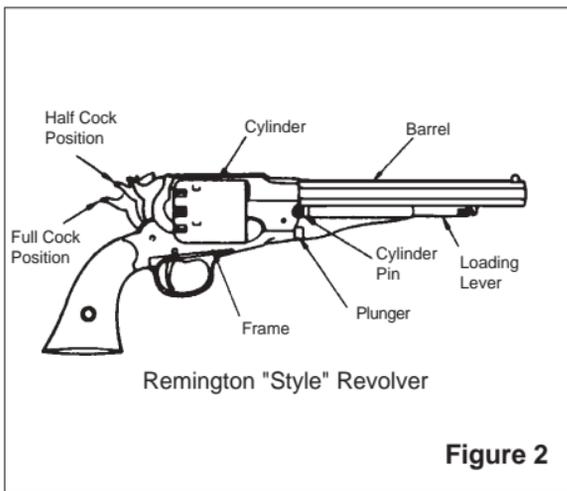
**NOTE:** The revolver should be cleaned prior to loading to remove the factory applied preservative.

1. "Colt"-style revolver disassembly (See Figure 1):
  - a. Remove the wedge, located just forward of the cylinder by tapping it through the slot from the right side



of the barrel. (left side for Colt Walker.)

- b. Place the hammer in the half-cock position (first audible “click”).
  - c. Rotate the cylinder, so that the loading lever, when lowered, will hit the area BETWEEN the cylinder chambers. This allows the loading lever to help in removal of the barrel from the frame and cylinder pin.
  - d. Remove the cylinder from the fame.
2. “Remington”-style revolver disassembly (See Figure 2):
- a. Partially lower loading lever so plunger does not enter cylinder chamber.
  - b. Pull out the T-shaped cylinder pin.
  - c. Place the hammer in the half-cock position (first audible “click”). Cylinder will rotate out of the frame.
3. Clean the interior of all cylinder chambers using a cotton swab dipped in a cleaning solvent.
4. Place the cylinder so that the chambers face down for easy draining.
5. Run a cleaning patch, soaked with solvent through the barrel.
6. Run clean, dry swabs and patches into the chambers and through the barrel to thoroughly clean and dry these areas.



7. During reassembly, LIGHTLY oil all moving parts and grease the grooves of the cylinder pin.

**NOTE:** If shooting is going to commence within the day, do not oil the inside of the chambers or nipples.

### **E. RECOMMENDED BLACKPOWDER CHARGES - TABLE 1**

1. The proper charge for a cap 'n' ball revolver is an efficient load, providing consistent ignition and velocity while yielding chamber pressures well below maximum safe levels. The full maximum charge is seldom used except in situations such as hunting.
2. Table 1 shows recommended charges for CVA revolvers only.

CALIBER AND REVOLVER TYPE	PROJECTILE	BLACKPOWDER CHARGE (Grains)	
		Target	Maximum
.31 caliber Colt and Remington	Round Ball Diameter - .320" Conical Bullet - N/A	7 - 3f N/A	12 - 3f N/A
.36 caliber Colt	Round Ball Diameter - .375" - .380" Conical Bullet - .375" - .380"	16 - 3f 12 - 3f	25 - 3f 15 - 3f
.44 caliber Colt and Remington	Round Ball Diameter - .451" - .454" Conical Bullet - .451" - .454"	22 - 3f 19 - 3f	30 - 3f 25 - 3f
.44 caliber Colt Walker and 3rd Model Dragon	Round Ball Diameter - .451" - .454" Conical Bullet - .451" - .454"	25 - 3f 20 - 3f	40 - 3f 35 - 3f

## F. PROJECTILES

1. Round Ball.
  - a. The recommended projectile for CVA revolvers to assure the greatest accuracy and consistency, is a round ball (cast or swaged) of pure lead.
  - b. See Table 1 for the suitable ball diameter for a specific caliber and revolver style.
2. Conical Bullet:
  - a. Conical bullets were originally used to provide greater knock-down power.
  - b. Inherently, conical bullets are not as accurate as round balls, primarily because they become canted during loading and, therefore, enter the chamber at an angle.
  - c. Do not exceed the maximum recommended blackpowder charges or change powder granulation from what is indicated in Table 1 when using these bullets.

## G. LUBRICANTS

Using a grease provides lubrication of the bore and keeps the blackpowder fouling soft to allow more shots between cleaning, as well as making cleaning easier after shooting.

Once a projectile has been seated in each of the chambers, CVA Grease Patch (AC1453) should be placed over and around the ball and opening of each chamber. The grease should be flush with the opening of each chamber.

**CAUTION:** The grease also reduces the possibility of a “chain fire”, which occurs when the flame from the first fired chamber crosses over and causes the other chambers to fire at the same time. This is sometimes called “multiple ignition.”

A light gun oil should be used to lubricate all moving parts. Do not apply the oil heavily as this will contribute to additional fouling build up during shooting, requiring more cleaning between shots.

## H. LOADING AND SHOOTING OF A CAP ‘N’ BALL REVOLVER

**CAUTION:** Always keep the barrel pointed in a safe direction.

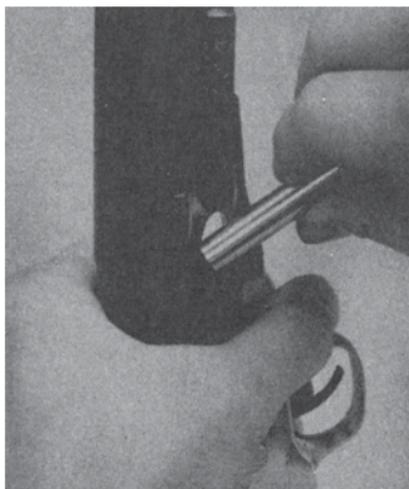
1. Put on shatterproof shooting glasses and insert ear plugs. A cap ‘n’ ball revolver may shower sparks of bits of caps when fired.
2. Be sure revolver is unloaded:
  - a. Place hammer in the half-cock position.
  - b. Rotate the cylinder and check to see that all the nipples are void of percussion caps. Remove any percussion caps immediately.
  - c. Take a wooden dowel or cleaning rod and place one end down the barrel and into each cylinder (be sure chamber is in line with barrel). Mark rod at muzzle.
  - d. Remove rod and lay alongside barrel, lining up mark at muzzle.
  - e. The opposite end of the rod should reach the base of the nipple where the chamber ends. Repeat for the remaining chambers. This practice will assure that the gun is unloaded. If the ramrod does not line up properly, the gun should be considered loaded and disarmed before proceeding.
3. Set the hammer at half-cock and check that the revolver cannot be fired (that is, the hammer cannot be moved) when the trigger is pulled. “Half-cock” refers to the notch which allows the hammer to rest above the nipple, thus preventing the

revolver from firing when the trigger is pulled.

4. WITH GUN POINTED IN A SAFE DIRECTION, place a #11 percussion cap on each nipple.
  - a. Turn the cylinder so that a nipple aligns with the cut out on the right side of the frame. Keep muzzle angled downward.
  - b. It may be necessary to pinch the cap to assure a snug fit on the nipple.
  - c. All nipples should be capped.

**CAUTION:** Use a capper to place the caps on the nipples. Percussion caps are sensitive to pressure and can explode under extreme finger pressure.

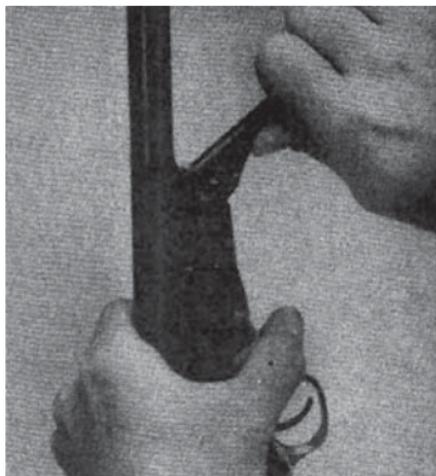
5. Fully cock the hammer and fire each cap to dry out the base of the chamber and nipple. Repeat this procedure for each chamber to insure it is thoroughly dry.
6. Check to be sure no UNFIRED caps have accidentally been left on the nipples.
7. Place hammer in the half-cock position.
8. Hold the muzzle up, with right side of gun towards you. Be sure no part of your body is over the revolver. Pour a measured charge into the chamber closest to the loading cut out in the frame.



Pour a measured charge into chamber.



Place ball over chamber.



Seat the ball with loading lever.

**CAUTION:** Never pour powder from a flask directly into a chamber. If a spark is present in the chamber, a serious explosion could result. Always use a revolver powder measure (AC1409).

9. Place a proper sized ball or bullet into the opening of the chamber. The ball or bullet should be slightly oversized so it will not enter without pressure.  
**NOTE:** If cast balls are being used, place sprue (flat spot) facing upwards.
10. Rotate the cylinder to place ball directly under the plunger of the loading lever.
11. Unlatch the loading lever and with smooth, even pressure, seat the ball firmly on the powder, but without crushing the powder.

- a. A thin ring of lead will be shaved off the ball by the opening of the chamber. This indicates that the ball is properly sized for the chamber so that it will not loosen during shooting, and creates a tight gas seal.
- b. Be sure ball or bullet is seated firmly against powder. No air space should exist between ball and powder.

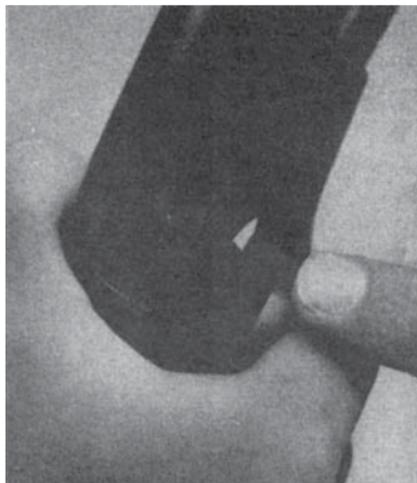
**DANGER:** Firing a revolver with the ball or bullet off the powder may cause serious damage to the firearm and possibly to the shooter or bystanders.

**NOTE:** When using a smaller powder charge, the loading plunger may not have enough depth to seat the ball on top of the powder charge. If this is the case the excess space must be taken up using a substance such as corn meal between the powder and ball.

12. Repeat steps 8-11 for all but one of the additional chambers.

**CAUTION:** Normally one chamber is left unloaded. The gun is used and carried with the hammer resting on the uncapped nipple of the unloaded chamber. To do so will reduce the possibility of an accidental firing.

13. Fill each loaded chamber with CVA Grease Patch.



Properly fitted ball will leave ring of lead.

**CAUTION:** The grease reduces the possibility of a “chain-fire”: that is when the flame from the first-fired chamber crosses over and causes the other chambers to fire at the same time. When aiming a revolver, never place “free hand” in front of cylinder. Possible injury could result in the event of a chain fire (multiple ignition).

14. WITH THE GUN POINTED IN SAFE DIRECTION and hammer in the half-cock position, place a No. 11 percussion cap on the nipple of each of the loaded chambers. THE GUN IS NOW LOADED.

15. Pull the hammer back to full-cock position and YOU ARE READY TO FIRE.

**NOTE:** All CVA revolvers are “single action”, meaning the hammer must be pulled back by hand to rotate the cylinder for successive shots.

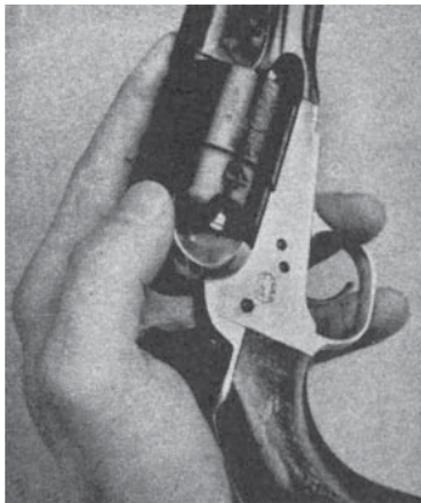
16. After firing all the chambers, wait one minute to reload. This allows all remaining sparks to burn out prior to reloading.

17. If a misfire or failure to fire occurs, wait at least one minute with gun pointed at the target. AFTER ALL OTHER CHAMBERS HAVE BEEN FIRED:

a. Place hammer in “half-cock” position.

b. Rotate the cylinder and remove the cap from nipple of the misfired chamber.

Make certain the gun is always pointed in a safe direction.



Place cap on each loaded chamber.

- c. Push a nipple pick through the hole in the nipple into the main charge to clear away any possible obstruction.
- d. Seat a new cap and refire that chamber.
- e. If the gun still does not fire, wait one minute with gun pointed at target.

**DANGER:** If a cylinder with loaded chamber(s) must be removed, be sure all (unfired and fired) caps have been removed from the nipples. It is possible for a chamber to fire even with the cylinder out of the gun. This could cause serious damage to the shooter or bystanders.

- f. Place hammer in half-cock position and remove all caps.
- g. Remove cylinder from the gun.
- h. Use a nipple wrench to remove the nipple of the unfired chamber.
- i. Clean the nipple thoroughly and dry it completely.
- j. Push a nipple pick through the nipple hole of the cylinder to loosen the powder at the rear of the chamber.
- k. Pour fresh powder into the nipple hole in the cylinder.
- l. Reinsert and tighten nipple.
- m. Replace cylinder in gun.
- n. Place new cap onto nipple.
- o. With GUN POINTED IN SAFE DIRECTION, pull hammer to full-cock position and YOU ARE READY TO FIRE.
- p. Fire

18. If gun still does not fire, remove cylinder and nipple as before.
19. Soak cylinder in hot water to flush out the powder.
20. Push ball or bullet out from rear of chamber using aluminum, brass or wooden rod.

## **I. LOADING AND SHOOTING THE WELLS FARGO REVOLVER**

1. Put on shatterproof shooting glasses and insert ear plugs. A cap 'n' ball revolver may shower sparks or bits of cap when fired.

**CAUTION:** Always keep the barrel pointed in a safe direction.

2. Be sure revolver is unloaded.
  - a. Place hammer in the half-cock position.
  - b. Rotate the cylinder and check to see that all the nipples are void of percussion caps. Remove any percussion caps immediately.
  - c. Take a wooden dowel or cleaning rod and place one end down the barrel and into each cylinder. Mark rod at muzzle. (Be sure a chamber is in line with the barrel).
  - d. Remove rod and lay it along outside of barrel, lining-up mark at muzzle.
  - e. The opposite end of the rod should end at the nipple, where the chamber ends. Repeat for the remaining chambers. This practice will assure that the gun is unloaded. If the ramrod does not line up properly, the gun is apparently obstructed and should be disarmed before proceeding.
3. Set the hammer at the half-cock position and check that revolver cannot be fired

(that is that the hammer cannot be moved) when trigger is pulled “Half-cock” refers to the notch which allows the hammer to rest above the nipple, thus preventing the revolver from firing when trigger is pulled.

4. WITH GUN POINTED IN A SAFE DIRECTION, place a No. 11 percussion cap on each nipple:
  - a. Turn the cylinder so that a nipple aligns with the cutout on the right side of the frame, angle muzzle downward.
  - b. It may be necessary to pinch the cap to assure a snug fit on the nipple.
  - c. All nipples should be capped.

**CAUTION:** Use a capper to place the caps onto nipples. Percussion caps are sensitive to pressure and can explode under extreme finger pressure.

5. Fully cock the hammer and fire each cap to dry out the base of the chamber and nipple. Repeat this procedure for all nipples to insure the chamber is thoroughly dry.
6. Check to be sure no UNFIRED caps have been accidentally left on the nipples.
7. Remove the barrel wedge.
8. Separate the barrel from the frame of the gun.
9. Place the hammer on half cock and remove the cylinder from the frame.
10. Inspect the cylinder once again to make sure that all caps have been removed and that all nipples and chambers are completely clear
11. Working with one chamber at a time, fill that chamber with a pre-measured load of powder (see Table 1).

**CAUTION:** Never pour powder from a flask directly into a chamber. If a spark is still present in the chamber, a serious explosion could result. Always use a revolver powder measure. (AC1409)

12. Place the proper sized ball or bullet onto opening of the chamber and apply firm thumb pressure.

**NOTE:** The Wells Fargo differs from most other blackpowder revolvers in that it does not have a loading lever. In this case the cylinder pin (the large pin on which the cylinder rotates) serves as a ramrod. It may be necessary to file down the forend of the pin in order to seat the balls deep enough into the chambers.

13. Using the cylinder pin or a suitable ramrod, drive the ball into the chamber.

a. A thin ring of lead will be shaved off the ball by the opening of the chamber. This indicates that the ball is properly sized for the chamber so that it will not loosen during shooting, and creates a tight gas seal.

b. Be sure ball or bullet is seated firmly against powder. No air space should exist between ball and powder.

**DANGER:** Firing a revolver with the ball or bullet off the powder may cause serious damage to the firearm and possibly to the shooter or bystanders.

14. Repeat steps 11-13 for all but one of the additional chambers.

**CAUTION:** Normally, one chamber is left unloaded. The gun is carried with the hammer resting on the uncapped nipple of this unloaded chamber. This greatly reduces the possibility of an accident.

15. Fill each loaded chamber with CVA Grease Patch.

**CAUTION:** The grease reduces the possibility of a “chain-fire.” That is when the flame from the first-fired chamber crosses over and causes the other chambers to fire at the same time. When aiming a revolver, never place “free hand” in front of cylinder. Possible injury could result in the event of a chain fire (multiple ignition).

16. Place the cylinder onto the cylinder pin with the hammer at half-cock.
17. Release the hammer and gently rest it on the nipple of the unloaded chamber.
18. Replace the barrel and wedge assembly.
19. Half-cock the hammer to be certain that the cylinder will rotate properly.
20. **WITH THE GUN POINTED IN A SAFE DIRECTION** and the hammer set at half-cock, place a No. 11 percussion cap on the nipple of each of the loaded chambers. **THE GUN IS NOW LOADED.** It may be necessary to squeeze the edges of the caps to achieve a snug fit on the nipples.

**IMPORTANT:** If the spare cylinder is loaded, do not put percussion caps on the nipples of the spare cylinder until it is in the gun and you are ready to shoot.

21. Pull the hammer back to full-cock position and **YOU ARE READY TO FIRE.**
22. After firing all the chambers, wait one minute to reload the same cylinder. This allows all remaining sparks to burn out prior to reloading.
23. If a misfire or failure to fire occurs, wait at least one minute with gun pointed at the target. **AFTER ALL OTHER CHAMBERS HAVE BEEN FIRED:**

- a. Place hammer in “half-cock” position.
- b. Rotate the cylinder and remove the cap from nipple of the misfired chamber. Make certain the gun is always pointed in a safe direction.
- c. Push a nipple pick through the hole in the nipple into the main charge to clear away any possible obstruction.
- d. Seat a new cap and refire that chamber.
- e. If the gun still does not fire, wait one minute with gun pointed at target.  
**DANGER:** If cylinder with loaded chamber must be removed, be sure all (unfired and fired) caps have been removed from the nipples. It is possible for a chamber to fire even though not in the gun. This could cause serious damage to the shooter, or bystanders.
- f. Place hammer in half-cock position and remove all caps.
- g. Remove cylinder from gun.
- h. Use a nipple wrench and remove the nipple of the unfired chamber.
- i. Clean the nipple thoroughly and dry it completely.
- j. Push a nipple pick through the nipple hole of the cylinder to loosen the powder at the rear of the chamber.
- k. Pour fresh powder into the nipple hole in the cylinder.
- l. Reinsert and tighten nipple.
- m. Replace cylinder in gun.
- n. Place new cap into nipple.
- o. With GUN POINTED IN SAFE DIRECTION, pull hammer to full-cock position and YOU ARE READY TO FIRE.
- p. FIRE.

24. If gun still does not fire, remove cylinder and nipple as before.
25. Soak cylinder in hot water to flush out the powder.
26. Push ball or bullet out from rear of chamber using aluminum, brass or wooden rod.

## **J. CLEANING AND MAINTENANCE**

Blackpowder fouling is extremely corrosive and can rust the barrel and cylinder in a short time. All blackpowder firearms must be thoroughly cleaned after firing.

1. Completely disassemble the gun (see Preparation Before Loading).
2. Wipe off the grips.
3. Soak all metal parts in hot water and dish detergent. Wipe off the fouling or use a brush and a blackpowder solvent to scrub off the fouling.
4. Rinse all the metal parts in boiling hot water.
5. Place metal parts into a baking oven set at 250° F.
6. Leave in oven for 30 minutes to thoroughly dry all metal parts.
7. While parts are still hot, wipe or spray with a rust preventative.
8. When cool, lightly oil all moving parts, grease the grooves of cylinder pin and reassemble.

**HELPFUL HINT:** Store firearms in a safe dry place with sufficient ventilation. If stored in a container, it should be well ventilated.

## **K. TEN COMMANDMENTS OF MUZZLELOADING**

1. Always treat every gun as if it is loaded.

2. Use only blackpowder or commercially produced “Pyrodex.”
3. Be sure of your target before firing.
4. Be sure the ball is firmly seated on the powder charge before you pull the trigger.
5. Treat a misfire or failure to fire with extreme care.
6. Make sure your gun is unloaded before you store it.
7. Always store the gun, powder and caps in separate places. Keep out of reach of children.
8. Never climb or jump fences or other obstructions with a loaded gun.
9. Protect your eyes and ears while shooting.
10. Never drink alcoholic beverages prior to or during shooting and never smoke while loading, shooting or handling black powder propellants.

#### **L. STATEMENT OF LIABILITY**

This gun is classified as a firearm or dangerous weapon and is sold by us with the express understanding that we assume no liability for its resale or unsafe handling under local laws and regulations. Connecticut Valley Arms assumes no responsibility for physical injury or property damage resulting from intentional or accidental discharge, or the function of any gun subject to influences beyond our control. We will honor no claim which was the result of careless or improper handling, unauthorized adjustment, improper loading, use of improper powder or components, corrosion or neglect.

For your protection, examine this firearm carefully at the time of purchase. If any unsafe condition exists contact your dealer or CVA immediately.

Connecticut Valley Arms does not recommend or approve of any custom alteration

or conversion. Firearms subjected to alteration are not covered by factory warranty. Responsibility for these alterations rests totally with the individual performing such work. Any such work done improperly or without proper judgement may cause malfunction or damage resulting in injury or death to the shooter and/or bystanders.

#### **M. SERVICE - 770-449-4687**

Should your CVA firearm require repair, we recommend that it be returned to our factory. This will ensure all work is performed by a competent staff of trained technicians.

Any firearm returned to the factory should be marked to the attention of the Repair Department. To expedite processing, please have your name and address on the outside of the package. A letter of explanation including a daytime telephone number should be enclosed to facilitate handling. All firearms must be uncharged and shipped prepaid via UPS.

#### **N. LIMITED ONE YEAR WARRANTY**

CONNECTICUT VALLEY ARMS warrants all factory finished firearms to be free of defects in material or workmanship for one year from date of purchase. This warranty is established by return of the authorized warranty card within fifteen (15) days of purchase.

Any CVA firearm or part thereof returned postage paid to the address below, within the warranty period, will be repaired or replaced to our commercial standard free of charge, and returned to the purchaser postage prepaid.

This warranty does not cover any damage resulting from careless handling, im

proper loading, corrosion, neglect, or custom alteration.

Connecticut Valley Arms reserves the right to refuse to repair or replace firearms or parts thereof damaged by the above.

This warranty does not apply to “kit” models. While CVA does guarantee quality and workmanship of the parts contained in each kit, we have no control over final finishing and assembly of these products. Therefore, no responsibility for construction or use of kit models is implied or assumed. Any part determined, by our inspection, to be faulty will be replaced free of charge.

This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

**This warranty is void if:**

- Any propellant other than correct type Blackpowder or Pyrodex has been used.
- CVA maximum recommended powder charge has been exceeded.
- Any form of plastic patch has been used.

If you have questions or comments about our products call 770-449-4687 and ask for customer service or write:

CVA

5988 Peachtree Corners East

Norcross, GA 30071

For a color catalog of the complete CVA line, send \$3.00 to the address above or use your Credit Card and call customer service at 770-449-4687.

### Shipping & Handling Chart

ORDER AMOUNT	REGULAR SURFACE SHIPPING	ORDER AMOUNT	REGULAR SURFACE SHIPPING
Up to \$20.00	\$3.50	\$80.01 - \$110.00	\$15.00
\$20.01 - \$30.00	\$5.00	\$110.01 - \$200.00	\$20.00
\$30.01 - \$50.00	\$7.00	\$200.01 - \$500.00	\$25.00
\$50.01 - \$80.00	\$10.00	Orders over \$500.00	\$30.00

Foreign and Canadian Orders - All orders must be paid in U.S. Funds  
Georgia residents must add 6% sales tax.

Air Shipments  
accepted by  
phone order  
only.  
Call for quote.

Please make  
checks or  
money orders  
payable to CVA.

### **O. ORDERING INSTRUCTIONS - Please read carefully.**

1. All parts correspondence and orders should be plainly addressed to:  
CVA, Parts Department, 5988 Peachtree Corners East, Norcross, GA 30071
2. To submit a parts order, please state all of the following:
  - a. Part Description/Function
  - b. Part Number
  - c. Model Number of Gun
  - d. Caliber and Type of Ignition (flintlock or percussion)
3. If proper parts identification is not possible prior to ordering, send the specific part(s) in question along with the order to aid in identification.
4. Discontinued items are subject to availability. CVA reserves the right to make compatible substitutions when necessary.
5. Enclose the total retail price of the item(s) plus postage and handling from the chart above.
6. Express shipping is available - call for quote.

## WARRANTY CARD (Please complete all sections)

Name \_\_\_\_\_ Phone (\_\_\_\_) \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Store Name \_\_\_\_\_ Date Purchased \_\_\_\_\_

Street \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Product: \_\_\_\_\_

Caliber \_\_\_\_\_ Model # \_\_\_\_\_ Serial No. \_\_\_\_\_

1. In what type of store was product purchased?

Gun

Chain/Discount

Hobby

Sporting

Hardware

Mail Order

2. Why did you select a CVA product?

Reputation

Special Feature

Price

Recommendation

Impulse Purchase

CVA Advertisement

3. Intended Use:

Hunting

Target Shooting

Decoration

What features do you like? \_\_\_\_\_

Are there any features you dislike? \_\_\_\_\_

What improvements would you recommend? \_\_\_\_\_

Place  
Stamp  
Here

**Connecticut Valley Arms  
5988 Peachtree Corners East  
Norcross, GA 30071**