

**OPERATING  
INSTRUCTIONS**  
FOR  
**CARTRIDGE FIRED  
PROJECTORS**

Model 196  
Model 389  
Model 193



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**pneudart inc**

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Please read this owner's manual carefully before operating your projector. This manual contains valuable information to ensure that your equipment operates at its optimum level.

Feel free to contact us or visit our Web site for tips, more information, and further assistance.

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# CLEANING CARTRIDGE FIRED PROJECTORS

Regardless if you have fired your projector 1 or 101 times, your cartridge fired projector should be cleaned after each session. Here's how:

**1. OPEN THE BOLT AND ACTION;** make sure there is no casing or dart in the chamber or clip. Did the projector eject the casing? A dirty action can cause the casing to stick in the chamber. In the event you have a stuck casing, it can be removed with a small flat-headed tool (screwdriver, knife, etc.). Before you do make sure the charge has been fired! When removing the casing, use extreme care; any damage done to the edge of the chamber will exaggerate your problems.

## **2. VISUAL INSPECTION CHECK LIST:**

- A.** Check the stock for cracks or stress points.
- B.** Check barrel. Is the barrel empty? Any dents or depressions in the barrel? Is the muzzle (end) of the barrel symmetrical (round)? Dents or depressions in the barrel may cause premature dart detonation.
- C.** Are the Sites/Scopes still there? Scopes with dents could be damaged.

**3. CLEANING** - Now that you know that your projector is unloaded and in good repair, you may begin cleaning your projector.

- A. EXTERIOR:** Spray the exterior of the projector with a light coat of oil (WD-40, CRC-336, or Remington gun oil). Wipe off excess oil with a clean cloth or paper towel.

**B. DART BARREL:** Spray down (inside) the barrel with a light coat of gun oil and swab out until perfectly clean. Pneu-Dart sells a cleaning kit of this application. When faced with rusty or neglected barrel, use a wire brush along with penetrating oil similar to Hoppes powder solvent or PB Blaster.

## **C. POWER CONTROL:**

- 1. MODELS 196 & 389** - Tilt or "break" the barrel by pushing the Barrel Latch toward the rear of the projector (Figure A, page 5) and spray a light coat of gun oil into the control. Turn the power dial to different settings to insure free movement. Wipe off excess oil.
- 2. MODEL 194** - Power control is mounted on the top of the gas block. To insure desired power output, confirm the power control dial turns and "clicks" into position. Spray with a light coat of gun oil and wipe off with a clean cloth or paper towel.
- 3. MODEL 193** - Located at the end of the slide lever action is the power control and power control plunger (See Figure A, page 12). Clean the power control with a light coat of gun oil. Inspect the "O-Ring," is the "O-Ring" still intact? Is it in good condition? If the "O-Ring" has fallen off or appears worn; loss of pressure can occur. If the "O-Ring" appears worn, this is typical example of excessive use or insufficient lubrication.

We recommend Hoppes Lubricating Oil for this application.

4. **MODEL 191** - The power control is located on the dart action. Spray action with a light coat of gun oil to insure power control can be rotated freely.
5. **MODEL 182** - Please follow instructions as listed for model 171C.
6. **MODELS 171 & 171C** On several of our older models (171C) the power controls are found on the end of the gas chamber directly below the dart barrel. These power controls should be removed completely and sprayed with a light coat of gun oil and wiped clean.
7. **MODEL 170** - Please see 194 instructions.

**D.** Located directly below the Dart Barrel is the "Gas Chamber". The Gas Chamber is designed with two independent compartments; referred to as the "Rear" and "Front" compartments. It is important to clean the "Rear Compartment" after each shooting session. Confirming the projector is unloaded; remove the bolt and clip assembly. To remove the bolt assembly, open the bolt and pull the trigger, slide the bolt out. Using a .22 cal. cleaning rod, brush and swab, apply a liberal coat of Hoppes power solvent, brush and swab out the Rear Compartment. Cleaning the full length of the Gas Chamber from the bolt assembly forward is not possible. Cleaning the front chamber for model 193 can be accomplished

by removing the gas chamber plug from the end of the Gas Chamber. **Warning; excessive oil left in the Gas Chamber will create a noticeable reduction in pressure.** In extreme cases of neglect, we recommend using compressed air to drive out any impurities or excess oil. It is recommended that a Pneu-Dart technician clean the forward portion of the gas chamber for our models 196, 2000 and 389 projectors every 1000 rounds.

#### **E. FINAL CLEANING STAGE:**

Apply a thin coat of Hoppes gun oil or 3 & 1 gun oil to all moving parts and exterior surfaces. Wipe off any excess oil with a clean cloth or paper towel.

**CAUTION:** Do not leave dart in projector for an extended period of time as drug may leak out and damage barrel.

**CAUTION:** Wear eye protection as appropriate. Guns can emit debris and hot gas that could cause eye injury. For these reasons, shooting glasses should be worn by shooters and spectators.



## PNEU-DART MODEL 196 CARTRIDGE FIRED RIFLE

### SPECIFICATIONS

#### 196, 196BLK, 196CAM STOCK AND ACTION

– Marlin Model 25N .22 cal.

5 Shot Clip

#### 196SS STOCK AND ACTION – Marlin Model

880ss .22 cal. 5 Shot Clip

#### DART BARREL – .50 cal. Rifled Barrel 17"

#### DART ACTION – Break Open, Shotgun Type

**CARTRIDGES** – .22 cal. Power Charges

**SIGHTS** – Open Rear – Blade Front

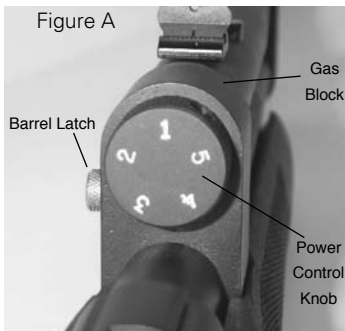
**WEIGHT** – 6-1/2 lbs.

**POWER CONTROL** – 5 Position

**RANGE** – 0 to 100 yards with 1cc

Type "C" disposable darts

1. To load the Dart Barrel, push Barrel Latch (See Figure A, this page) toward the rear of the projector to break/open the barrel.
2. Place dart in barrel and snap closed. To remove dart, open action and point muzzle up. Dart should drop out. A slight jar may be necessary to dislodge it.
3. Load clip with proper .22 power loads in rifle. Be sure rifle is on SAFE before loading



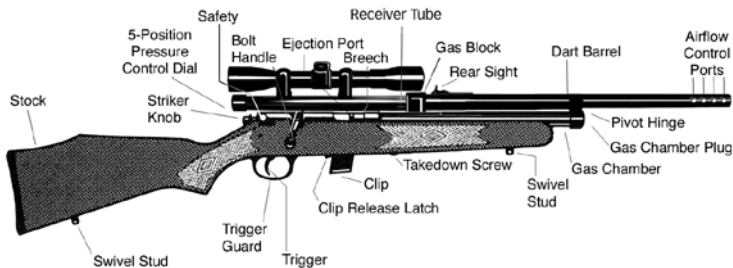
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cartridge into chamber. **Do not use charges with wads.**

4. The knurled power control (see Figure A page 5) knob located at the back of the gas block controls velocity of the dart. Each number on the power control knob signifies the amount of pressure released into the dart barrel. For example, number one represents the least amount of pressure for close range shooting conditions. Desired setting should be positioned at the top of the gas block.

5. **Caution - Do not use charges with wads.** Our projectors are designed to use CCI charges. Recommended CCI charges are Brown, Green and Yellow. Please refer to the "Power Control Chart" for charge and setting recommendations.

**NOTE:** Calibrating power charges with your power control will result in ideal flight and impact conditions. To insure impact is as light as possible, experience with practice is recommended. Pneu-Dart sells weight equivalent practice darts and targets.



## PNEU-DART MODEL 389 CARTRIDGE FIRED RIFLE

### SPECIFICATIONS

**STOCK AND ACTION** – Marlin Model 25N  
.22 cal. 5 Shot Clip (Model 389 ships with 3 x 9 x 32mm scope)

**DART BARREL** – .50 cal. Rifled Barrel 18' with Airflow Control Ports (see pg. 6)

**DART ACTION** – Break Open Breech Loading Type

**CARTRIDGES** – .22 cal. Power Loads

**SIGHTS** – 3 x 9 Power Scope

**WEIGHT** – 9-1/2 lbs.

**POWER CONTROL** – 5 Position

**RANGE** – 0 to 100 yards with 1cc Type “C” disposable darts

1. To load the Dart Barrel, push Barrel Latch (See Figure A, pg. 8) toward the rear of the projector to break/open the barrel.
2. Place dart in barrel and snap closed. To remove dart, open action and point muzzle up. Dart should drop out. A slight jar may be necessary to dislodge it.
3. Load clip with proper .22 power loads in rifle. Be sure rifle is on SAFE before loading cartridge into chamber. **Do not use charges with wads.**
4. The knurled power control knob (see Figure B page 8) located at the back of the receiver controls velocity of the dart. Each number on the power control knob signifies the amount of pressure released into the dart barrel. For example; number one

Figure A



represents the least amount of pressure for close range shooting conditions. Desired setting should be positioned at the top of the gas block

- 5. Caution - Do not use charges with wads. Our projectors are designed to use CCI charges. Recommended CCI charges are Brown, Green and Yellow. Please refer to the "Power Control Chart" for charge and setting recommendations.**

**NOTE:** Calibrating power charges with your power control will result in ideal flight and impact conditions. To insure impact is as light as possible, experience with practice is recommended. Pneu-Dart sells weight equivalent practice darts and targets.

As with model 196, the 389 power control is located within the gas block. The power control should be thoroughly cleaned at the conclusion of the darting session. To remove the power control you must first rotate the power control knob to position number 4 (see figure B, this page). Locate the setscrew access just behind the gas block (see figure C, page 9) and remove the small setscrew using the Pneu-Dart provided 3/32" Allen wrench. With a flathead screwdriver remove the power control setscrew (see figure D, page 9). **DO NOT REMOVE THE SET SCREW LOCATED ON THE KNURLED POWER CONTROL KNOB.** Extract the power control rod and coupler from within the receiver tube and affix the Pneu

Figure B



Dart provided knockout disk to the end of coupler (see figure E, page 10). Using the rod as an extraction tool, push the rod through the receiver tube until you feel it against the shaft of the power control.

Apply a slight amount of pressure and the power control will push out of the gas block allowing a thorough cleaning (see figure F, page 10).

**CAUTION, DO NOT ATTEMPT TO REMOVE THE POWER CONTROL WITH PLIERS. ANY SURFACE ABRASIONS MAY RETARD THE POWER CONTROL FROM TURNING FREELY WITHIN THE GAS BLOCK.**

After cleaning both the power control and the inside of the gas block, apply a light film of gun oil to both areas and place the power control back into the gas block. Remove the knockout disk from the end of the coupler, apply a light coat of gun oil to the rod and reposition the rod into the receiver. Slide the coupler over the end of the power control shaft and firmly attached the two with the setscrew previously removed. Note: You may have to use a non-abrasive tool (such as your finger) to rotate the power control so that the coupler hole lines up with the setscrew engagement area. Lastly, screw in the power control retention screw previously removed.



Figure C

**DO NOT REMOVE**



Figure D



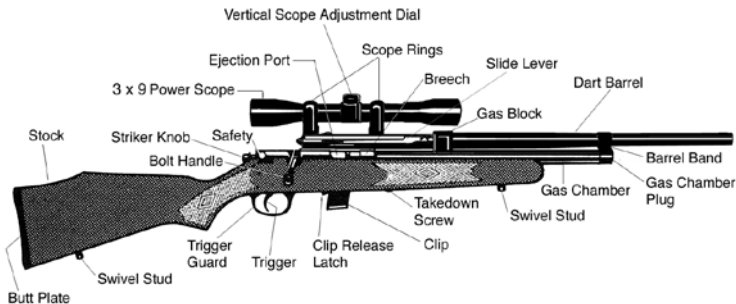
Figure E. coupler



Above: A close-up view of the 389's air control ports.



Figure F



## PNEU-DART MODEL 193 CARTRIDGE FIRED RIFLE

### SPECIFICATIONS

#### **193, 193BLK, 193CAM STOCK AND ACTION**

– Marlin Model 25N .22 cal.  
5 Shot Clip

#### **193ss STOCK AND ACTION** – Marlin Model

880ss .22 cal. 5 Shot Clip

**DART BARREL** – .50 cal. Rifled Barrel 16"

**DART ACTION** – Toggle-Side Lever

– Single Shot

**CARTRIDGES** – .22 cal. Power Charges

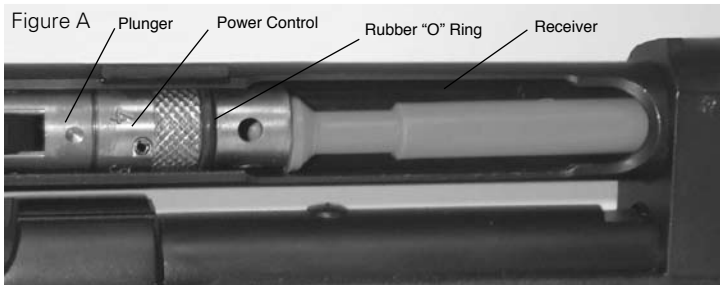
**SIGHTS** – 3 x 9 Power Scope

**WEIGHT** – 8-1/4 lbs.

**POWER CONTROL** – 5 Position

**RANGE** – 0 to 100 yards with 1cc Type "C"  
disposable darts

1. To load dart, pull "slide lever" back to open receiver to accept dart (See Figure A, pg. 10).
2. Place dart in receiver and close slide lever. Slide lever is designed to "snap" into position. To load 5cc and 6cc darts, open action until the power control and plunger reaches enlarged opening at the front of receiver and swing out. Place dart in receiver and push forward into barrel. Reposition power control and plunger into the receiver and "snap" into position. To remove dart from the chamber, hold the projector muzzle up and open action. Dart should drop out. A slight jar may be necessary to remove dart.
3. Load clip with proper .22 cal. power load in chamber. Be sure rifle is on **SAFE. Do Not Use Charges with Wads.**



4. Power / velocity is controlled by the knurled power control that positions dart in receiver. Power Control is numbered from 1 to 5. Number 1 provides the least amount of power, 5 the most amount of power. Desired power setting should be aligned with the mark found on the plunger.
5. Caution - Do not use charges with wads. Our projectors are designed to use CCI charges. Recommended CCI charges are Brown, Green and Yellow. Please refer to the "Power Control Chart" for charge and setting recommendations.
6. If the "O-Ring" has fallen off or appears worn; loss of pressure can occur. If the "O-Ring" appears worn, this is

typical example of excessive use or insufficient lubrication. We recommend Hoppes Lubricating Oil for this application.

**NOTE:** The scope on the projector has been purposely mounted higher at the rear to accommodate for the ballistics of the dart. Calibrating power charges with your power control will result in ideal flight and impact conditions. To insure impact is as light as possible, experience with practice is recommended. Pneu-Dart sells weight equivalent practice darts and targets.

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## **Pneu-Dart's Guide to General Gun Safety**

1. Handle every gun as if it was loaded.
2. Keep the safety on SAFE until you are ready to shoot.
3. Be sure of your target before you shoot.
4. Control the muzzle, and never point a gun at anything you don't want to shoot.
5. Always wear protective glasses when shooting, disassembling or cleaning firearms.
6. Be sure no one is in path of ejecting shells.
7. Never climb or jump over a fence or other obstacle with a loaded gun.
8. Never climb into or out of a tree, or tree stand with a loaded firearm.
9. Never pull a gun toward you by the muzzle.
10. Avoid alcoholic beverages before and during shooting.
11. Never use a gun that fails to function properly. Do not try to force a jammed action.
12. Be sure to keep the barrel and mechanism free of obstructions.
13. Before cleaning, be sure the chamber, action and magazine are completely unloaded.
14. Always unload a gun before storing, transporting, or leaving unattended.
15. Never enter a motor vehicle with a loaded gun.
16. Store guns and ammunition separately, locked and beyond the reach of children.
17. Always carry your firearm empty with the action open, except when you intend to shoot.
18. Avoid bumping, dropping or jarring any firearm. Bumping, dropping or jarring has resulted in certain firearms discharging accidentally under some circumstances.
19. Consult owner's manual before using any firearm.
20. Never interchange parts between firearms, except where indicated as a safe practice.

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# Pneu-Dart's Guide to General Gun Safety

*(continued from page 13)*

***Failure to follow these rules, or other instructions in this manual, can result in personal injury.***

***Children are attracted to and can operate firearms that can cause severe injuries or death.***

***Prevent child access by always keeping guns locked away and unloaded when not in use. If you keep a loaded firearm where a child obtains and improperly uses it, you may be fined or sent to prison.***

***Safety Warning:*** Pneu-Dart strongly recommends that you take a safety course, taught by a certified instructor, before you use this projector. Contact Pneu-Dart for further details.



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