



## SYSTEM OPERATOR AND SAFETY MANUAL



Available from



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**DO NOT OPERATE THE NITROSET TOOL UNLESS YOU HAVE  
COMPLETELY READ AND UNDERSTOOD THE SAFETY MANUAL!**

**THIS TOOL IS TO BE USED BY ONLY  
PROPERLY TRAINED OPERATORS.  
HANDLING OR OPERATING THIS TOOL WITHOUT  
PROPER TRAINING CAN RESULT IN SERIOUS INJURY  
TO THE OPERATOR OR BYSTANDERS.**

## Safety Precautions

### Basic Instructions

- You are required to understand and follow all safety instructions for proper and safe use of NITROSET™ tools. If you require any assistance, please contact your jobsite safety foreman.

### Required Safety & Protective Equipment

- **Always** wear proper safety equipment including safety glasses, hard hats, hearing protection, and gloves while operating the tool.

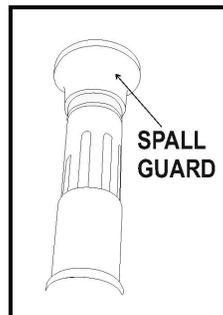


### Misuse of the Tool

- Manipulation or modification of the tool is not permitted. Any alteration of the tool or use of non-genuine NITROSET™ parts can impair function.
- Do not operate in an explosive or inflammable environment.
- Never put your hand over the muzzle end of the tool.
- Never point the tool at yourself or any bystanders.
- Never press the muzzle-end of the tool against any part of your body or anyone else's body.
- Only fasten using appropriate substrates. Use of inappropriate substrates may cause injuries.
- Never attempt to disassemble, modify or alter the fastener assemblies. Use only the required length and type of pin (with correct muzzle).

### General Safety Precautions

- Inspect the tool to ensure that the tool is complete, undamaged, and all parts **secure** prior to use. Damaged parts should be replaced using genuine NITROSET™ parts.
- Insert the fastener assembly completely into the muzzle to ensure the correct function of the tool. Fasteners that do not completely insert into the muzzle should not be used and should be disposed of appropriately.
- Use the provided NITROSET™ Spall Guard to prevent concrete spall.



- Never leave a loaded tool unattended. Only load the tool prior to making a fastening.
- Always remove fasteners and any debris from the tool prior to cleaning, servicing, maintenance, or storage.
- Always hold the tool securely and at right angles to the working surface when making a fastening.

According to ANSI A10.3 and DOT (ref: EX2009040168) NITROSET™ tools are not classified as a powder actuated tool, thus no licensing is required.

## Worksite Preparation

### Acceptable Base Materials

The NITROSET™ tool is for fastening into the following base materials only:

- Concrete
- Structural Steel

**Never** attempt to fasten into any other materials other than those listed above.

### Inappropriate Base Materials

The NITROSET™ tool is **NOT** for fastening into the following base materials:

- Wood
- Drywall
- Glass
- Tile
- Rock

These materials may shatter causing the fastener or base substrate to fly free and may cause serious injury to the operator or bystanders.

### Substrate Appropriateness

Check the thickness and type of base material before fastening, following your specific jobsite instructions and building code requirements. Minimum concrete thickness is **three times** the fastener penetration (ie. 3" of concrete base material is a minimum for a 1" penetration). In fastening into steel substrate, the minimum thickness of substrate must be 1/8".

## Operating Instructions

### Muzzle Usage Table

Muzzle	Pin Size Range	Pin w/Clip Size Range
A	1-1/4" (with Conversion Kit)	1-1/4"
B	1/2" – 1"	1/2" – 1"

### Loading and Actuating Instructions

1. Reset the tool before each fastening to ensure the muzzle barrel is clear of any debris.
2. Insert the fastener fully into the muzzle of the tool.



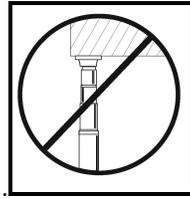
If the fastener assembly cannot be inserted into the muzzle, do not force the fastener into the muzzle. This can jam the fastener in the tool and damage the fastener. Fasteners that cannot be inserted should be removed and discarded appropriate.

In case of jammed fasteners – Refer to the troubleshooting guide for proper removal of all jammed fasteners.

3. Place the NITROSET™ tool perpendicular (right angle) against the fastening surface.



Fasteners should not be driven close to the edge of the base substrate. Always maintain a distance of at least 3" from the edge of the substrate



4. Position the tool and push directly to feel the engagement of the firing spring. Follow with a smooth and forceful motion to compress the firing spring to trigger the firing mechanism. This is the correct fastening procedure to minimize spalling and noise.

**Important: DO NOT BOUNCE FIRE THE TOOL!**

5. If the tool fails to fasten, remove the spent fastener assembly while pointing the tool away from yourself and any bystanders.

6. Reset the tool to ensure the muzzle barrel is clear of debris and repeat from Step (1) to (4).



After the tool has been in use, the muzzle and other parts may be hot.  
Always wear gloves to handle these areas.

### **Using NITROSET™ Tool with a NITROSET™ Pole**

The use of NITROSET™ pole is recommended for maximum efficiency on ceiling fastening applications. The end of the wire assembly should be placed inside the pole for better control. Actuate by following the actuating instructions as detailed.



When using an electrically conductive or metallic pole, be sure to maintain a minimum 10 foot clearance from all electrical lines to avoid electrical hazard.

### **NITROSET™ Tool Cleaning Procedure**

It is recommended that the NITROSET™ tool be cleaned every day after use. Proper maintenance and cleaning of the tool enables the tool to operate at peak performance.

First, be sure all fastener assemblies and debris are ejected from the tool by resetting it pointed away from yourself or any bystanders.

Remove the muzzle by unscrewing it from the tool shank. Then, remove the end cap and disassemble the entire tool following the tool disassembly instructions.

Empty the debris cup.

To clean, you should use diluted industrial cleaner & degreaser to spray or wipe the tool surface. Allow contact time of 3 to 5 minutes before scrubbing. Rinse with water and wipe it dry with towel or paper.

Re-assemble the tool. Use degreaser lubricant similar to Strike-Hold or other similar non-oil base degreaser. (See Tool Cleaning and Maintenance Instruction manual for details).

### **Interim Cleaning Procedure**

Empty the debris cup after every 500 fastenings, or as needed to optimize performance.

A liquid shot of degreaser lubricant at approximately every 100 to 200 fastenings is recommended to maintain a smooth operation.

This will help tool performance and actuating consistency, making your end-of-day cleaning easier.

### **DOs and DON'Ts**

#### **DOs**

- DO** read and understand the correct and safe usage instructions for the NITROSET™ Fastening System.
- DO** remove defective tools, parts and/or accessories from service immediately.
- DO** check the thickness and type of base material before attempting any fastening.
- DO** wear safety goggles and other suitable personal protective items while using NITROSET™ tool.
- DO** make sure that the tool is square to the surface before fastening.
- DO** recognize that operator and bystander safety is the most important factor when considering a NITROSET™ tool application.
- DO** ensure all individuals working in the same area as those using the NITROSET™ system also is wearing proper safety equipment.
- DO** reset the tool pointed away from yourself and any bystanders and eject any debris from muzzle piece before inserting the fastener into the barrel.
- DO** make sure when fastening into concrete, the base material thickness is at least 3 times the shank penetration.
- DO** make sure when fastening into steel substrate, the minimum thickness of the substrate must be 1/8".
- DO** only use genuine NITROSET™ repair parts. Any parts from different manufacturers may not perform properly and could be dangerous.
- DO** clean the tool daily and empty the debris cup every 500 fastenings or as needed.
- DO** only use the correct tools to disassemble the NITROSET™ Tool. Use of pipe wrenches or vise grips can damage the tool.

#### **DO NOTs**

- DO NOT** use to fasten into brittle materials such as brick, tile, rock or glazed material.
- DO NOT** attempt to drive fasteners into soft materials such as wood or drywall.
- DO NOT** attempt to drive fasteners into hardened steel, tool grade steel, cast iron, or natural rock such as marble.
- DO NOT** drive fasteners into base steel thinner than the shank diameter of the fastener.
- DO NOT** fasten into cracked or spalled areas of concrete.
- DO NOT** drive fasteners closer than 3" to the edge of the concrete materials and 1/3" to the edge of steel base materials.
  
- DO NOT** place hand over the muzzle end of a tool to reset the tool, or clean the barrel of the tool.
- DO NOT** use NITROSET™ tools in a hazardous environment.
  
- DO NOT** use the tool prior to ensuring that all parts are in good working order and securely attached to the tool. All parts should be threaded completely.

## **Troubleshooting Guide**

- I. The fastener is jammed inside the muzzle.
  - A. If cycling the tool does not clear the jammed fastener, remove the muzzle completely. The jammed fastener can then be removed from the other end.
  - B. **DO NOT** strike the tool against the substrate to dislodge the fastener.
  - C. If the fastener remains permanently jammed, please contact the appropriate support personnel.
  
- II. The tool does not fire?
  - A. Check if you are fastening to the appropriate substrate material
  - B. Check the muzzle is free of debris and reset the tool
  - C. Check if the correct muzzle is being used (According to Muzzle Guide)
  - D. Check if the firing pin is piercing the NITROSET pill. If it's piercing the pill and not firing, then check the pill for moisture. Clean/Wipe the muzzle and try with a new fastener.
  - E. If the tool still does not actuate after checking all the above, follow the manual and disassemble to check for broken parts.
  
- III. The tool fires loudly?
  - A. Check if you are fastening to the appropriate substrate material.
  - B. Check if the correct muzzle is being used.
  - C. Before firing, make sure the muzzle is perpendicular to the material surface.
  - D. Check and clean the debris cup.
  - E. Ensure the debris cup and muzzle is securely fastened to the tool.
  
- IV. The tool is difficult to depress and fire.
  - A. Clean and lubricate according to the operator's manual
  - B. Check that the springs are clean and straight
  
- V. Insufficient power to drive fastener
  - A. Clean the debris cup; be sure that the vents are clean and unclogged.
  - B. Check that the correct muzzle is being used for the application
  
- VI. Firing Pin Holder and Guide are damaged.
  - A. Disassemble the tool and check to see if the buffer is in place. This part acts as a shock absorber. Damage to the tool is possible if used without the buffer properly inserted.
  - B. Clean to the tool to ensure no debris has gotten into the main body of the tool.

If all of the above fails, please contact your local supplier's technical support personnel to address the issues.

## **Tool Disassembly**

1. Unscrew the debris cup and the muzzle counter-clockwise to remove.
2. Unscrew the pole mounting base from the tool counter-clockwise. Remove the firing spring and buffer. DO NOT LOSE THE BUFFER. Operation without the buffer will damage the tool.
3. Slide off the outer cover sleeve from the trigger body. This will expose the main assembly pin.
4. Compress the tool, the main assembly pin will eject, and the remainder of parts will be released. (reset spring, reset sleeve, trigger body, firing pin guide)

## **Changing the firing pin**

When removing the firing pin, depress the trigger ball, and guide the pin out. Keep the trigger ball depressed until the pin exits the guide, otherwise the spring will propel the ball away.

## **Tool Assembly**

1. Insert the firing pin guide in to the reset sleeve. You will know when it is inserted correctly when the bottom half of the guide is protruding and the trigger ball is visible.
2. Place the reset spring on to the small end of the reset sleeve.
3. Slide the trigger body on to the reset sleeve, spring, and firing pin guide. The Align Arrow should be aligned with the trigger ball. This will ensure that the main assembly pin hole will be accessible.
4. Compress the tool and insert the main assembly pin BEHIND the reset spring, in to the firing pin guide.
5. Prepare the pole mounting base by inserting the buffer, tapered end first, in to the mounting base. Place the firing spring inside the mounting base.
6. Slide the outer cover sleeve on to the trigger body.
7. Take the tool in one hand, and pole mounting base in another. Screw the pole mounting base clockwise on to the trigger body. The firing spring should be over the firing pin guide.
8. Screw the muzzle clockwise on to the reset sleeve.
9. Screw the debris cup clockwise on to the muzzle.

If you are still having difficulties, please refer to [www.nitroset.com](http://www.nitroset.com) for a video tutorial on assembly and disassembly.



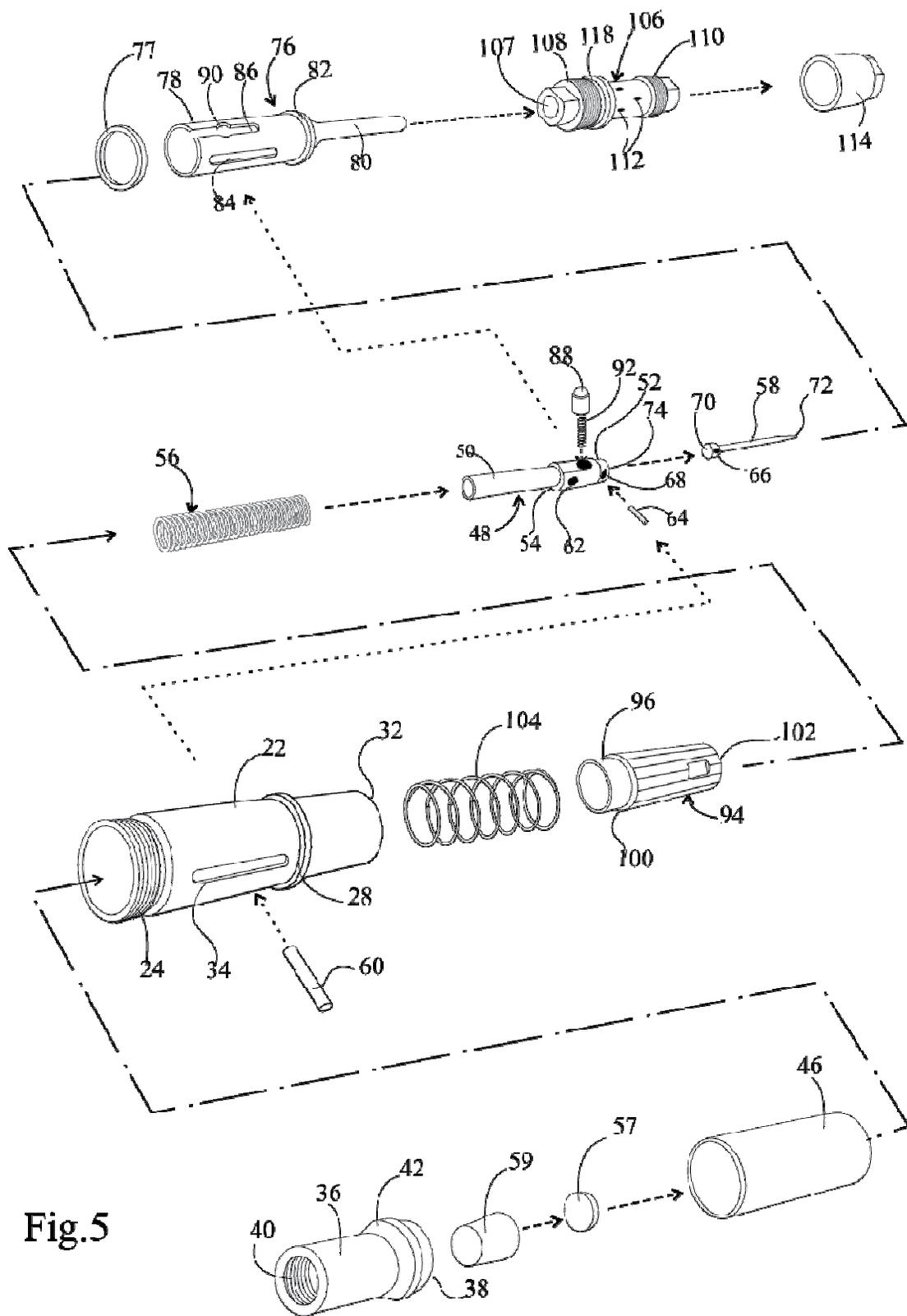


Fig.5



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