

REMINGTON®



Model 494
Powder Actuated
Fastening Tool



Operating Instructions



IMPORTANT:

Read this manual and all labels carefully before operating your powder actuated tool. This manual should always accompany the tool and be transferred with it upon change of ownership.

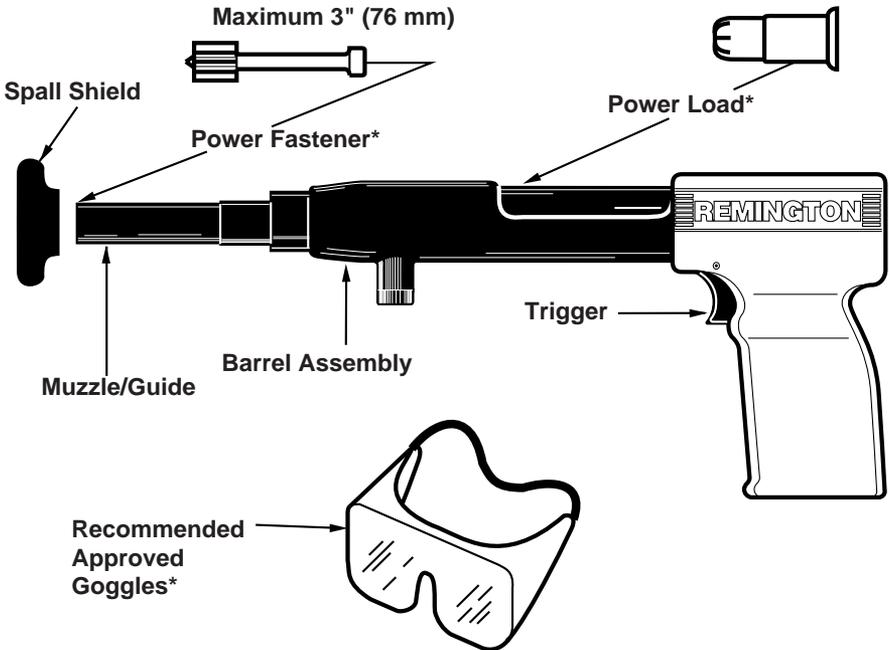
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REMINGTON

Model 494 Powder Actuated Fastening Tool

The Remington Model 494 Powder Actuated Fastening Tool is designed for use with Remington 22 caliber Type A crimped loads and Remington Power Fasteners. Remington power fasteners are manufactured from special steel and heat treated to produce a very hard yet ductile fastener.



* Not provided with tool



Warning: Safety Precautions

The following pages contain detailed warnings, cautions, and rules of safe operation. Read carefully and become familiar before operating to avoid serious injury. We expressly disclaim any liability for any injury to persons or damage to property which result from your failure to take the precautions contained in this manual.

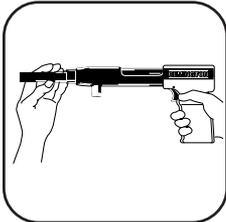


WARNING: This tool is designed only for use by qualified operators. Qualification is obtained through a thorough understanding of the Safety Warnings and operating instructions as defined in this operating manual. **NOTE:** The labor regulations of many states require that the operator of this tool on a job site be thoroughly trained and certified for competence prior to operating this tool. For certification procedures, call: DESA Technical Services Department, 1-800-626-2237.

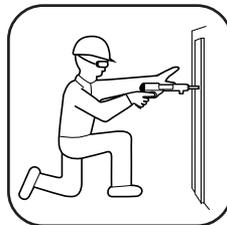
BEFORE USING



1. **ALWAYS** handle the tool as if it were loaded. Before starting work, check that the tool is unloaded and the muzzle is clear. **NEVER** load a tool unless it is going to be used.

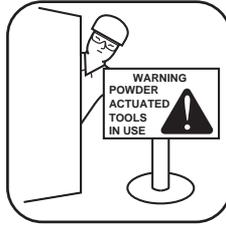
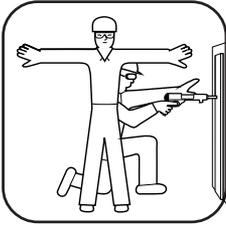


2. **ALWAYS** inspect to make sure the tool is working properly. If the tool does not work properly, remove from service and tag **DEFECTIVE**. **DO NOT** use the tool again until it has been properly repaired.

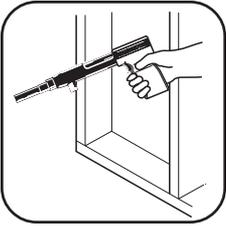


3. Operators and bystanders must **ALWAYS** wear goggles and ear protection which meet or exceed ANSI standards.

Safety Precautions



4. **ALWAYS** clear the work area on all sides and post appropriate warning signs on job sites.

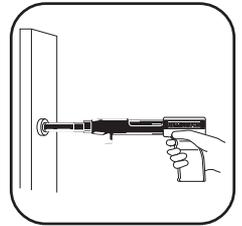
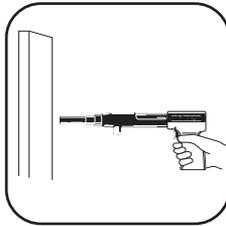


5. **ALWAYS** make sure the work area is clean from loose material and debris.

HANDLING THE TOOL



1. **NEVER** place your hand over the muzzle. Accidental discharge can cause serious injury.



2. **NEVER** place your finger on the trigger until the tool's muzzle is against the work surface.

Safety Precautions



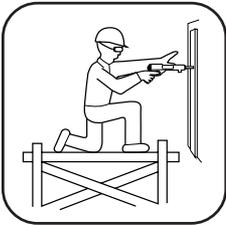
3. **ALWAYS** store **UNLOADED** powder actuated tool and power loads in a locked container. Keep power loads of different power levels in separate containers.



4. **NEVER** carry or pass a loaded powder actuated tool. **NEVER** point a powder actuated tool at anyone.



5. If the tool is dropped, inspect for damage and repair it before continuing to work. **NEVER** use a damaged tool.



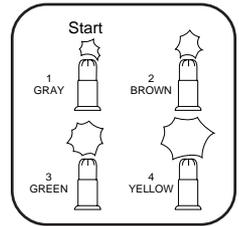
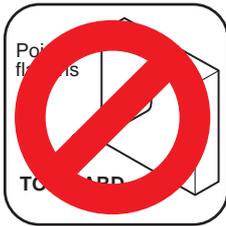
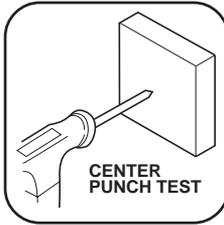
6. **ALWAYS** take precaution to maintain your balance while operating a powder actuated tool.

Safety Precautions



- An operator taking medication should take extra precautions while handling the tool. **NEVER** drink alcoholic beverages or take medications which impair your vision, balance or judgement before using a powder actuated tool.

KNOW YOUR FASTENING BASE MATERIAL



- ALWAYS** know the thickness and type of base material into which you are fastening. **NEVER GUESS.** Test the base material by using the Center Punch Test. The Center Punch Test is performed by using a hammer to test drive the particular power fastener to be used into the material. If the point penetrates easily, the material is too soft. If the point becomes blunt, the material is too hard. If the material fractures, cracks or shatters, the material is too brittle. Test fastenings can be made if the material shows a clear fastener impression and the fastener point is not blunted. **ALWAYS** start with the lowest power load (Gray-Level 1) and proceeding with the order shown in the lower right-hand figure above. Always wear approved goggles.

Safety Precautions



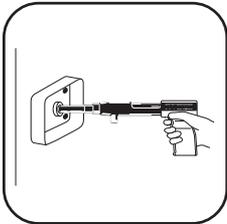
2. **NEVER** attempt to drive power fasteners into very hard or brittle materials including, but not limited to cast iron, glass, tile, stone, brick, or hardened steel. Materials of this type tend to shatter and create hazard from flying particles.



3. **NEVER** make fastenings in spalled or cracked areas.

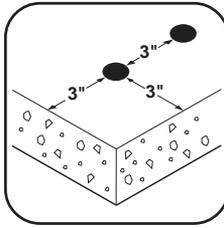
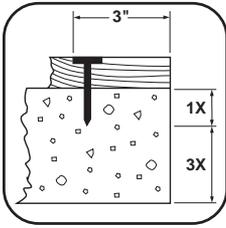


4. **NEVER** drive power fasteners into thin or easily penetrated materials unless it is backed by concrete or steel. When in doubt, such as when base material is concealed, conduct a Center Punch Test (See page 6). Check continually to avoid fastening into unsuitable material, especially in older buildings.

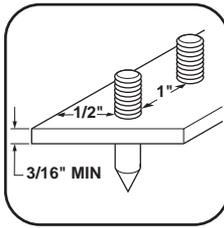
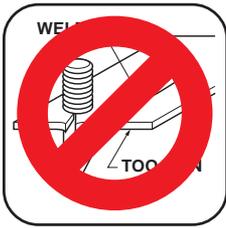


5. **DO NOT** fasten through or within 1/2" of predrilled or pre-punched holes.

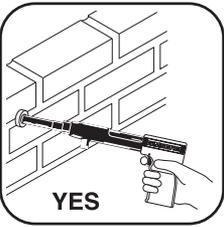
Safety Precautions



- DO NOT** drive power fasteners into concrete less than three times as thick as the intended fastener penetration, within 3" of the edge, within 3" of another power fastener or within 3" of a failed power fastener.

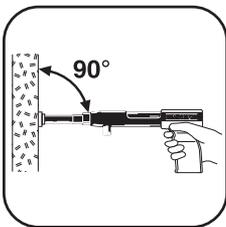


- DO NOT** drive power fasteners into steel base material less than 3/16" thick, within 2" of a weld, within 1/2" of the edge or within 1" of another power fastener.



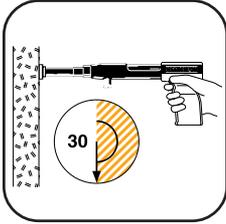
- When fastening into masonry walls, always drive into horizontal mortar joints, never into vertical mortar joints. **BE CAREFUL.** A poorly laid joint may permit too much penetration, and/or unsatisfactory holding power.

OPERATING THE TOOL

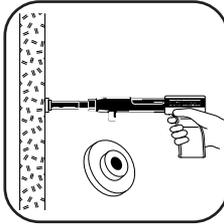


- ALWAYS** hold tool perpendicular to work surface.

Safety Precautions



- Should the tool fail to fire, hold the muzzle firmly against the work surface for 30 seconds. Release the trigger and remove pressure on the tool while holding the muzzle against the work surface. Again press the tool firmly against the work surface and pull the trigger. If the tool still fails to fire, hold the tool firmly against the work surface for another 30 seconds before unloading and carefully discarding the misfired power load into water or oil.



- ALWAYS** use the spall shield when driving directly into concrete or steel. Always wear approved goggles.



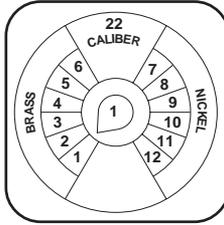
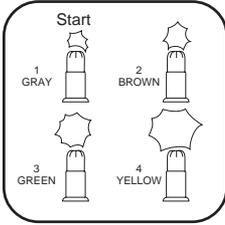
- NEVER** use a powder actuated tool in an explosive or flammable atmosphere or when non-sparking tools are required.

POWER LOADS AND FASTENERS



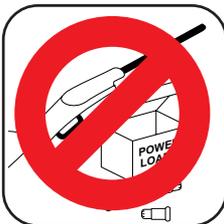
- NEVER** leave unfired power loads on floors or work surfaces.

Safety Precautions

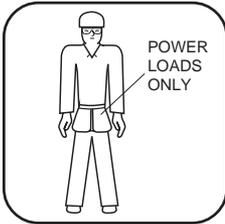


NOTE:
Failure to start with the lowest power level can result in overdrive condition and will result in damage to tool (See page 13).

2. Remington power loads are available in four power levels with gray (1) being the lowest power level and yellow (4) being the highest power level. Always start with the lowest power level (gray-level 1) and increase until a proper fastening is made (see page 13 *Selecting Fasteners and Loads*).



3. **NEVER** use power loads in firearms.



4. **NEVER** carry fasteners or other hard objects in the same pocket or container with power loads.

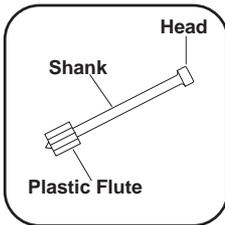


5. A color blind person must take extra precautions to prevent the chance of mixing the power loads of various levels.

Safety Precautions



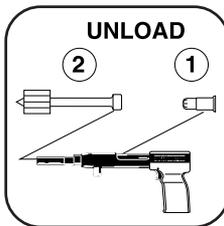
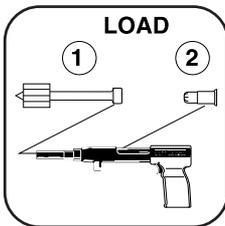
6. Power fasteners are a permanently installed fixture. An act of demolition is required for their removal. Appropriate safety precautions must be taken.



7. **NEVER** use common nails or other materials as fasteners. Remington Power Fasteners are manufactured from special steel and heat treated to produce a very hard yet ductile fastener.



8. **NEVER** pry a power load out of the tool. Prying can discharge the load causing serious injury (see *Troubleshooting Guide*, page 16).



9. **ALWAYS** insert the power fastener first, then the power load. If work is interrupted for any reason, **ALWAYS** remove the power load before removing the power fastener (see page 15, item 7).

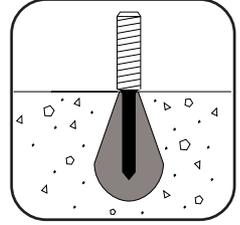
Why A Power Fastener Holds

WHY A POWER FASTENER HOLDS IN CONCRETE

The compression bond of the concrete to the power fastener accounts for the majority of the holding power. The fastener displaces the concrete which tries to return to its original form causing a squeezing effect.

Maximum holding power is achieved when the depth of penetration produces a bond on the power fastener equal to the strength of the concrete. As a general rule, penetration should be approximately 1" to 1 1/4" into the base concrete. Make sure the concrete is at least three times as thick as the intended fastener penetration. **NEVER** have the power fastener point protrude through the concrete.

NOTE: Concrete needs to cure for 28 days before maximum fastening holding power will be achieved.



WHY A POWER FASTENER HOLDS IN STEEL

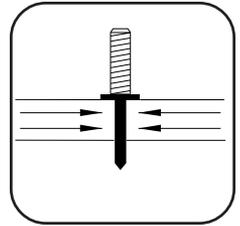
Holding power in steel depends on the elasticity of the steel. The steel pushes back on the shank of the power fastener.

Drop a marble into water; the water parts, the marble continues down, the water closes back. This is similar to the reaction when a power fastener penetrates steel.

In steel, the point of the power fastener must penetrate completely through for highest holding power. If the fastener does not penetrate, the spring action of the steel pushes back on the point and tends to force the fastener out.

Recommended applications are between 3/16-3/8" steel.

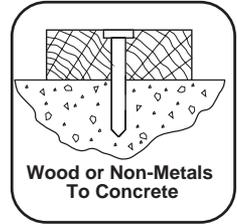
NOTE: When fastening in steel be sure the point goes through the steel.



Selecting Power Fasteners and Power Loads

FASTENING INTO CONCRETE

The proper power fastener length can be determined by adding the thickness of the material to be fastened and the amount of fastener that will actually penetrate the concrete. The concrete must be three times as thick as the intended fastener penetration. In most cases, penetration should be approximately 1" to 1 1/4" into the base concrete material.



FASTENING INTO STEEL

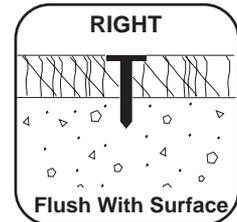
The proper fastener length can be determined by adding the thickness of the material to be fastened and the thickness of the steel. The point of the power fastener must go completely through the steel.



POWER LOADS

Always start with the lowest power level (gray-level 1). If the first test fastener does not penetrate to the desired depth, move to the next highest power level (brown-level 2). Increase until a proper fastening is made.

IMPORTANT: Damage to the tool will result if the above instructions are not followed (see illustrations to right and lower right).



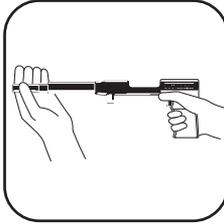
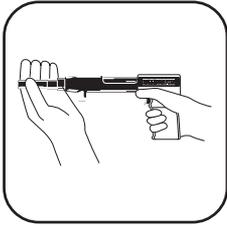
OVERDRIVEN POWER FASTENERS AND PISTON

An overdriven power fastener results when too strong of a power load is used causing the piston to extend past the muzzle. Move to the next lightest power load. Repeated overdrive will damage your tool. By avoiding overdrive, you can extend the life of your tool considerably and avoid costly repairs.

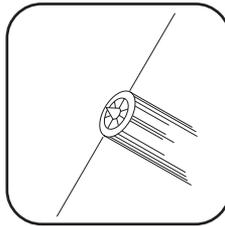
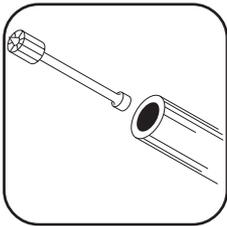
NOTE: NEVER fire the tool without a power fastener. This can damage the tool and/or cause possible injury to the operator.



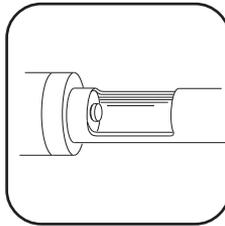
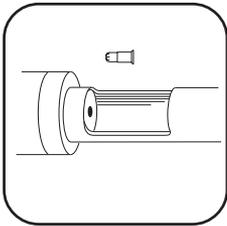
Operation



1. Grasp muzzle and slide barrel forward rapidly until it stops. This sets piston into firing position and opens the chamber.



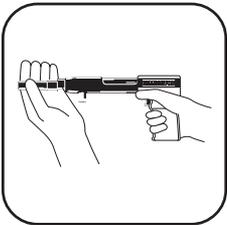
2. Insert power fastener into muzzle of tool, head end first. Push the fastener until point is even with end of tool. **ALWAYS** load the fastener first, then the power load.



NOTE:

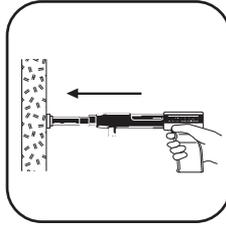
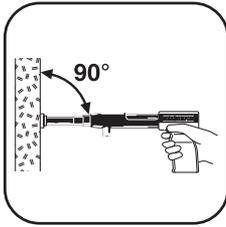
Failure to start with the lowest power level can result in overdrive condition and will result in damage to tool (see page 13).

3. Select the proper Remington Power Load and insert into the chamber until it stops (see *Application Chart* on page 23).

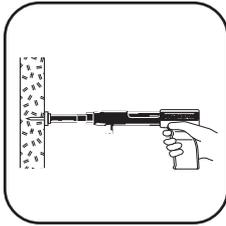


4. Push barrel into housing to the closed position.

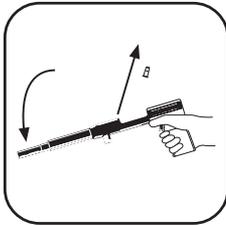
Operation



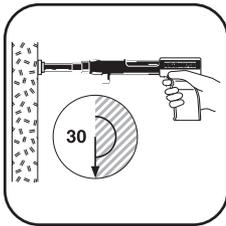
5. Place the muzzle of tool perpendicular to work surface without tilting the tool. Push tool against work surface until sliding action of barrel stops.



6. Squeeze trigger to set power fastener. Be sure to keep pressure on tool during this operation.



7. After fastening is made, slide barrel forward rapidly. This motion ejects the spent power load and resets the piston for the next fastening. Make sure spent load has ejected from tool.

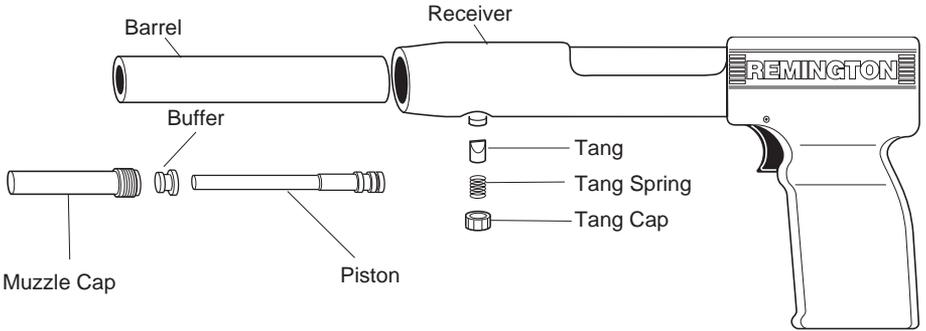


8. Should the tool fail to fire, hold the muzzle firmly against the work surface for 30 seconds. Release the trigger and remove pressure on the tool while holding the muzzle against the work surface. Again press the tool firmly against the work surface and pull the trigger. If the tool still fails to fire, hold the tool firmly against the work surface for another 30 seconds before unloading and carefully discarding the misfired power load into water or oil.

Maintenance

IMPORTANT:

Clean your tool after each day's use. The parts shown in the illustration below should be cleaned daily. Clean metal parts with accessory wire brushes. Apply penetrating lubricant sparingly and wipe dry.



Troubleshooting Guide

PROBLEM	POSSIBLE CAUSE	REMEDY
Piston rod hangs out of muzzle cap.	Piston not properly assembled in relation to tang.	Remove barrel assembly. Follow instructions for piston change. Replace all damaged or missing parts.
	Broken piston.	Replace piston.
Overdriving of power fastener.	Excessive power.	Change either to next lower power load, or use next longer fastener length.
Piston jammed.	Overdriving of power fastener (see above). Buffer binding on piston in muzzle cap.	Remove barrel assembly. Follow instructions for buffer replacement (page 21). Replace other parts if damaged.
Expanded power load will not extract.	Dirty or damaged receiver chamber.	Clean receiver chamber. If power loads will not chamber with a slip-fit or extraction difficulties continue, take tool to your distributor for repair.
Reduction or loss of power.	Piston not returning to full rear position.	Barrel must be opened fully to the full extended position to properly position piston.
	Worn piston ring.	Remove piston. Replace piston ring.
	Broken piston.	Replace piston.

Troubleshooting Guide (cont.)

PROBLEM	POSSIBLE CAUSE	REMEDY
Tool does not completely depress.	Misassembled or damaged breech and firing pin parts.	Remove breech and check all parts for correct fit assembly.
Tool does not fire.	Failure of tool to depress completely.	See data listed under <i>Tool Does Not Completely Depress</i> , above.
	Dirt buildup on breech not allowing proper penetration of firing pin.	Check firing pin indentation on cartridge. Clean breech, breech face, and firing pin.
Opening and closing of barrel or pushing down of the tool, etc. is not smooth but is rough or binds.	Lack of proper cleaning.	Inspect and clean complete tool (see <i>Maintenance</i> on page 16). Replace worn or damaged parts.

Parts Centrals

Contact authorized dealers of this product. If they can't supply original replacement part(s), either contact your nearest Parts Central (see below) or call DESA International's Parts Department at 1-800-972-7879.

When calling DESA International, have ready

- model number of your tool
- replacement part number

RAILWAY DISTRIBUTORS

264 Railway Avenue
Campbell, CA 95008
408-866-9266
Guy Bothelho

BALTIMORE ELECTRIC

1348 Dixwell Avenue
Hamden, CT 06574
1-800-397-7553
203-248-7553
Parts Department

ALL TOOL & FASTENER

7830 N.W. 72nd Avenue
Miami, FL 33166
305-888-6909
Parts Department

PRECISION TOOL

431 Commerce Park Drive
Suite 106
Marietta, GA 30060
404-421-0688
Bob Young

PORTABLE HEATER PARTS

342 No. County Road 400 East
Valparaiso, IN 46383
219-462-7441
1-800-362-6951

F B D

601 Hope Street
Bowling Green, KY 42101
502-796-8406
1-800-654-8534

MASTER SERVICE CENTER

1184 Wilson NW
Grand Rapids, MI 49504
US 1-800-446-1446
616-791-4760
Mike Fowler

MANZO ASSOCIATES

1645 Bustleton Pike
Feasterville, PA 19053
215-364-0480
Parts Department

21st CENTURY

RD 2, Box 165
Perkasie, PA 18944
215-795-0400
1-800-325-4828
Parts Department

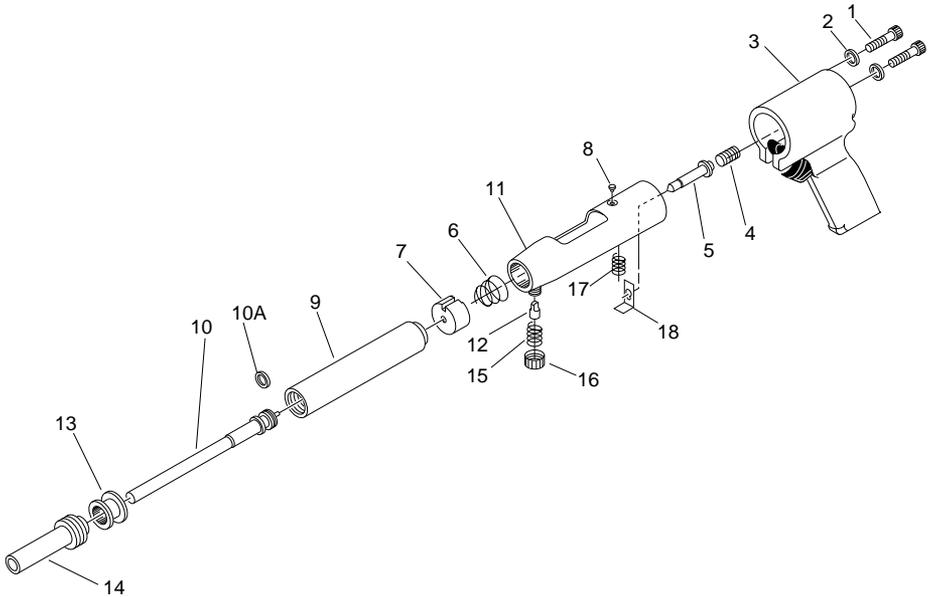
BLUEBONNET TOOL

10490 Shady Trail
Suite 104
Dallas, TX 75220
214-358-2363
Ken Perry

CLARK SUPPLY

9435 Summerbell
Houston, TX 77074
713-771-0404
Parts Department

Parts List – Model 494



KEY NO.	PART NO.	DESCRIPTION	QTY.
1	101123-01	Screw, 1/4"-20 x 1.25	2
2	101122-01	Washer	2
3	101128-01	Handle & Trigger Assembly	1
4	056217	Firing Pin Spring	1
5	075370	Firing Pin	1
6	101148-01	Breech Spring	1
7	100858-01	Breech	1
8	101124-01	Stop Pin	1
9	101127-01	Barrel and Insert Assembly	1
10	101126-01	Piston and Ring Assembly	1
10A	101439-01	Piston Ring	1
11	100856-01S	Receiver Assembly	1
12	100864-01	Tang	1
13	TA4083	Buffer (5 Pack)	1
14	100857-01S	Muzzle Cap	1
15	101147-01	Tang Spring	1
16	100862-01	Tang Cap	1
17	056218	Sear Spring	1
18	076657	Sear	1

IMPORTANT: Do not use key numbers when ordering service parts. Always order components by part number and description. Include model number and serial number of tool.

Accessories

PART NO.	DESCRIPTION
101320-02	Spall Shield
056415	Goggles
056485	Brush, 1/4"
056486	Brush, 5/8"
103754	Hex Wrench 3/16"

For Parts and Accessories, please contact your dealer or distributor. If they are unable to satisfy your requirements, please contact DESA International at the locations as stated on back page.

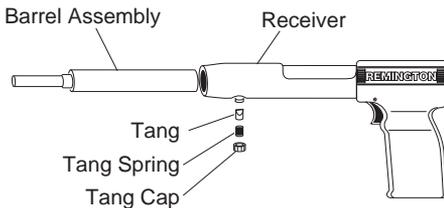
Tool Disassembly and Assembly



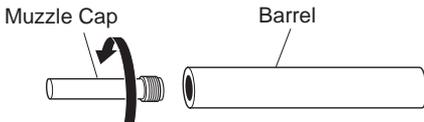
WARNING: Always unload a powder actuated tool before disassembling, replacing barrel, cleaning, or assembling.

DISASSEMBLY

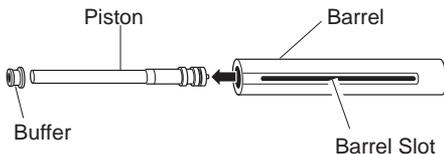
1. a) Remove tang cap, tang spring, and tang. Slide barrel assembly from receiver.



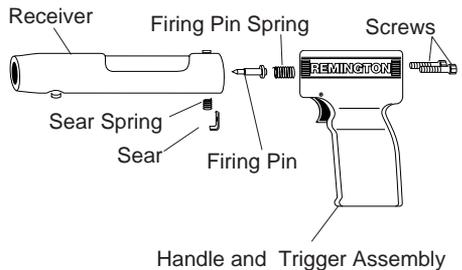
- b) Remove muzzle cap from barrel by unscrewing counterclockwise.



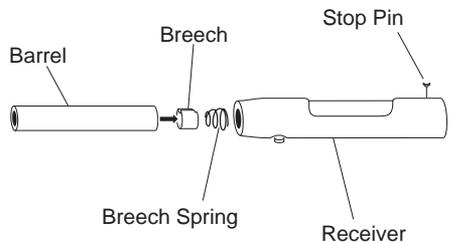
- c) Insert a rod or screwdriver into barrel slot and push piston and buffer out of barrel.



2. Remove upper screws from handle and trigger assembly. Slide receiver from handle and trigger assembly. Remove firing pin and firing pin spring. Sear and sear spring will fall out when firing pin is removed.



3. Insert the barrel back into the receiver and press down. This will release the stop pin. Remove the stop pin. Remove barrel, breech, and breech spring from receiver.



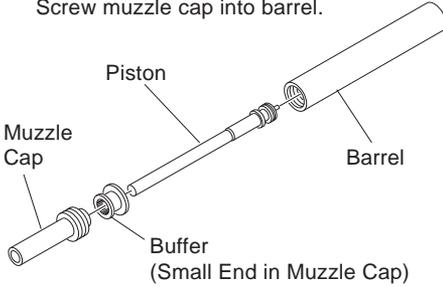
Tool Disassembly and Assembly



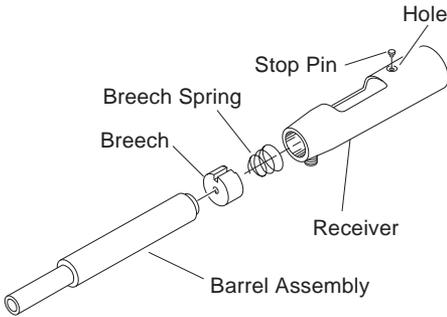
WARNING: Always unload a powder actuated tool before disassembling, replacing barrel, cleaning, or assembling.

ASSEMBLY

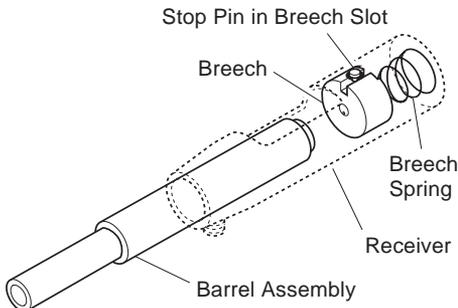
1. Place buffer, small end first, in muzzle cap. Push piston all the way into the barrel. Screw muzzle cap into barrel.



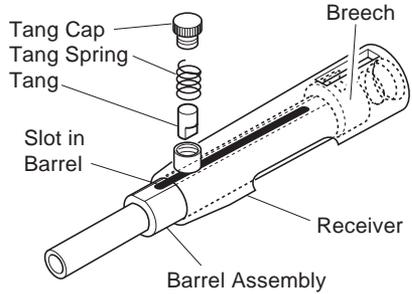
2. Drop breech spring in receiver. Drop breech in receiver. Line up slot in top of breech with hole in the receiver. Use barrel to push breech assembly up in the receiver.



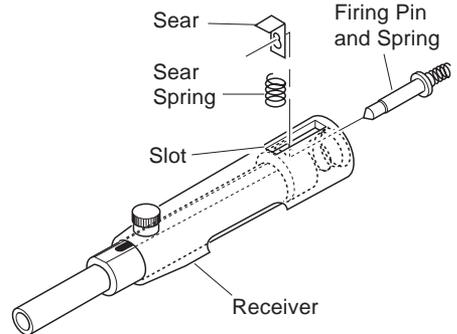
3. Insert stop pin through hole in receiver and into the slot on breech. Remove barrel assembly. Breech should remain in place.



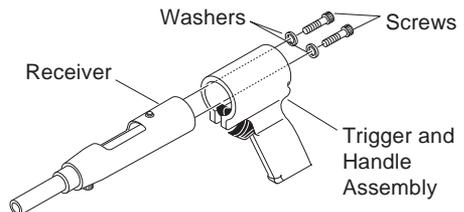
4. Reinsert barrel assembly slotted side down into receiver. Turn tool over. With barrel touching breech, insert tang and tang spring into hole on bottom of receiver. Make sure tang drops into the slot in the barrel. Screw on tang cap completely. Tang cap must always be kept tight to ensure proper operation of tang.



5. Place sear spring on breech through slot in bottom of receiver. Slide long side of sear with hole between breech and breech spring. Attach firing pin spring to firing pin. Insert firing pin through hole on end of the receiver and through hole on sear.



6. Attach handle and trigger assembly to receiver with two screws and washers.

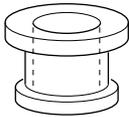


Buffer and Piston Replacement

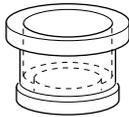


WARNING: Always unload a powder actuated tool before disassembling, replacing barrel, cleaning, or assembling.

IMPORTANT: This tool is equipped with a piston buffer. The buffer stops the piston before it makes contact with the muzzle cap. This protects the barrel and muzzle cap. Inspect and replace the buffer on a regular basis.



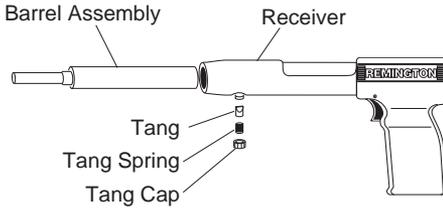
New Piston Buffer



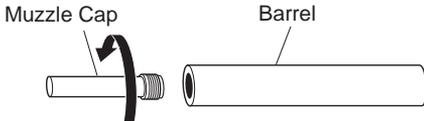
Worn Piston Buffer

TO REPLACE BUFFER AND PISTON:

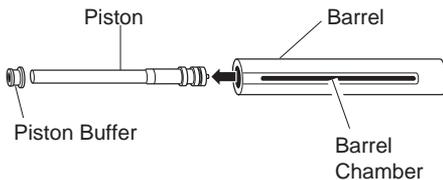
1. a) Remove tang cap, tang spring, and tang. Slide barrel assembly from receiver.



- b) Remove muzzle cap from barrel by unscrewing counterclockwise.



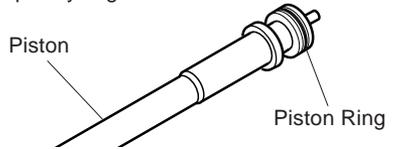
- c) Insert a rod or screwdriver into barrel chamber and push piston and buffer out of barrel.



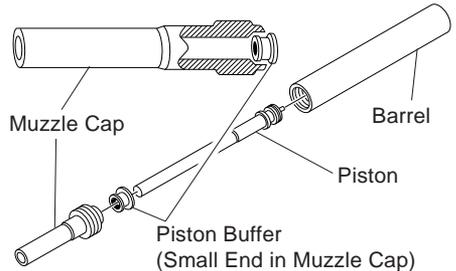
TO REASSEMBLE:

IMPORTANT: Inspect piston ring and replace if worn.

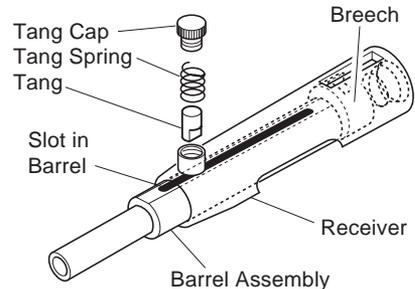
1. Install new piston ring onto piston (if required).
 - a) Remove old piston ring.
 - b) Install new ring. The piston ring consists of three turns. Place one end into groove and twist around piston until it is completely in groove.



2. Place buffer, small end first, in muzzle cap. Push new piston all the way into the barrel. Screw muzzle cap into barrel.

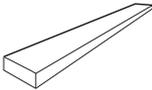
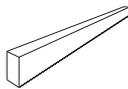
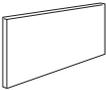


3. Reinsert barrel assembly slotted side down into receiver. Turn tool over. With barrel touching breech, insert tang and tang spring into hole on bottom of receiver. Make sure tang drops into the slot in the barrel. Screw on tang cap completely. Tang cap must always be kept tight to ensure proper operation of tang.



Application Chart

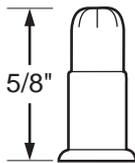
Power load and power fastener application information.

For fastening this	to this	power fastener length	power load color
Two by fours 	Concrete Cement block Steel (3/16" to 3/8" thick)	 2 1/2"  2 1/2"  2"	 Green  Green  Yellow
Furring strips 	Concrete Cement block Steel (3/16" to 3/8" thick)	 1 1/2"  1 1/2"  2"	 Green  Green  Yellow
Metal electrical junction boxes 	Concrete Cement block Steel (3/16" to 3/8" thick)	 1"  1"  1"	 Green  Brown  Yellow
Conduit clips 	Concrete Cement block Steel (3/16" to 3/8" thick)	 1"  1"  1"	 Green  Brown  Yellow
Shelf brackets 	Concrete Cement block	 1"  1"	 Green  Brown
1/4" Plywood or pegboard 	Concrete Cement block Steel (3/16" to 3/8" thick)	 1 1/4"  1 1/4"  1 1/4"	 Green  Green  Yellow

Power load listings are recommendations only. If you are in doubt, try a test fastening using the next lightest power load.

IMPORTANT

This tool is designed to use 22 caliber neck-down crimped loads, power levels 1 (gray) through 4 (yellow).



Neck-Down
Crimped Power Load



Straight Wadded
Power Load

CAUTION

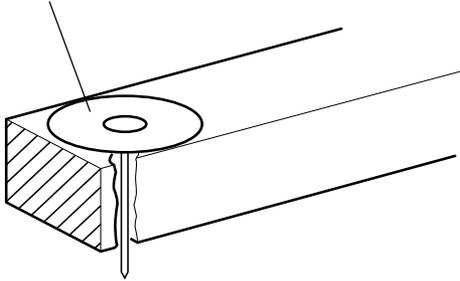
Do not use any load other than the 22 caliber neck-down crimped load. Other types of loads will cause load-ejection problems.

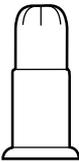
Application Chart

IMPORTANT

- If power fastener goes below the top surface of the board, use penetrating control disc (* see illustration below).
- Always wear approved eye and ear protection.

* Use power fastener with penetration control disc, part number 015549.



22 CALIBER Type A Crimp Loads for powder actuated tools		Stock Number	Load Level Number	Load Strength	Color Code	
					Case Body	Head
		A22C1	1	light	brass	Gray
		A22C2	2	medium	brass	Brown
		A22C3	3	heavy	brass	Green
		A22C4	4	extra heavy	brass	Yellow

Limited Warranty Agreement

DESA International warrants the Remington Model 494 Powder Actuated Fastening Tool against defects in materials and workmanship for a period of one (1) year from the date of purchase.

If within one (1) year from the purchase date this Powder Actuated Tool fails due to a defect in material or workmanship, DESA will repair or replace the tool at DESA's option. To obtain service under this warranty, contact DESA at the number/address listed below. You must have the Serial Number, Model Number, date of purchase and indicate the type of problem being experienced. DESA will send replacement part(s), repair or replace the tool at DESA's option. However, this warranty does not cover failures caused by misusing or abusing the product (for proper use of this product, read and understand the operating instructions in this owners manual). Repairs made because of misuse, abuse, negligence or accident will be charged for at regular repair prices.

This express and limited warranty is the only warranty on this product, and to the full extent permitted by law there are no other warranties, express or implied, including warranties of merchantability and/or fitness for a particular purpose which extend beyond the terms of this express and limited warranty.

To the full extent permitted by law, the liability of DESA for personal injury, property damage or any other damage whatsoever, including consequential and incidental damages, arising from the sale or use of this product shall not exceed the purchase price of this product.

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

For information about this warranty write:

DESA **INTERNATIONAL**

P.O. Box 90004
2701 Industrial Drive
Bowling Green, KY 42102-9004
502-781-9600

For Technical Assistance or Repair on Your
Remington Powder Actuated Tool, Call
Technical Services Department
1-800-323-5190.

For Certification Procedures,
Call 1-800-626-2237.