

Cleco®

E SERIES RIVETERS 16 SERIES CHIPPERS



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Series: _____

E2 (2 1/4 Stroke)
E3 (3" Stroke)
E4 (4" Stroke)
E5 (5" Stroke)
16 (1 7/16 Stroke)

Handle Style: _____

AJ Lever
BWD Offset

Nose Type : _____

RD Round
HX Hexagon
RT Round Taper

Retainer : _____

B Beehive
O Open Coil

NORTH AMERICA

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Safety Recommendations

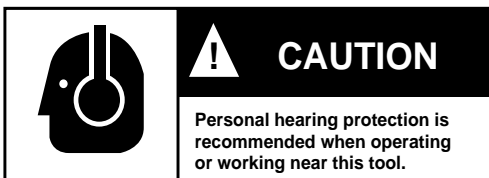
For your safety and the safety of others, read and understand the safety recommendations before operating any percussion tool.

Always wear protective equipment and clothing.



Caution: Faceshields do not provide unlimited protection against flying

particles and are not to be considered as eye protection. ANSI Z87.1 states that separate eyewear shall be used. For additional information on eye protection, refer to Federal OSHA Regulations, 29 CFR, Section 1910.133, Eye and Face Protection, and ANSI Z87.1, Occupational and Educational Eye and Face Protection. This standard is available from the American National Standards Institute, Inc., 11 West 42nd street, New York, NY 10036.



Hearing protection is recommended in high noise areas (above 85 dBA).

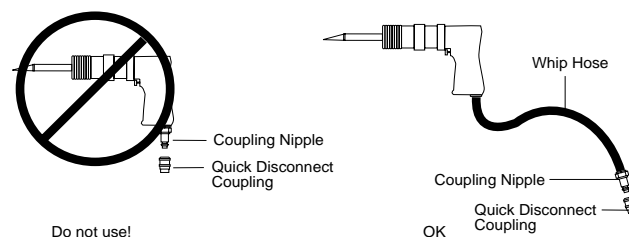
Close proximity of additional tools, reflective surfaces, process noises, and resonant structures can substantially contribute to the sound level experienced by the operator. Proper hearing conservation measures, including annual audiograms and training in the use and fit of hearing protection devices may be necessary. For additional information on hearing protection, refer to Federal OSHA Regulations, 29 CFR, Section 1910.95, Occupational Noise Exposure, and American National Standards Institute, ANSI S12.6, Hearing Protectors.

Gloves and other protective clothing should be worn as required. Properly fitted gloves cushion vibration and protect the fingers from pinching, scuffing and scraping and must be used when guiding the chisel on a workpiece.



Cleco percussion tools are designed to operate on 90 psig (6.2 bar) maximum air pressure. Excessive air pressure can damage the plunger and increases sound levels. Installation of a filter-regulator-lubricator in the air supply line ahead of

the tool is highly recommended. Before the tool is connected to the air supply, check the throttle for proper operation (i.e., throttle moves freely and returns to closed position). Being careful not to endanger adjacent personnel, clear the air hose of accumulated dust and moisture. Attachment of a quick-disconnect air coupling directly to the inlet threads of a percussion tool can cause wear and failure of the coupling. Should the coupling fail, severe injury can result from the hose end violently whipping about. If a quick-disconnect air coupling is used, separate the coupling from the tool with a whip hose (1.5 feet minimum). Only use a whip hose with fittings of hardened steel or other material which is at least comparably resistant to shock. Do not use hose to lift or lower tool.



WARNING Cracked chisels or implements are hazardous. Visually inspect the chisel or implement for cracks before use. Make a practice of having all chisels magnifluxed before resharpener. Destroy and discard any chisel or implement that shows a crack.

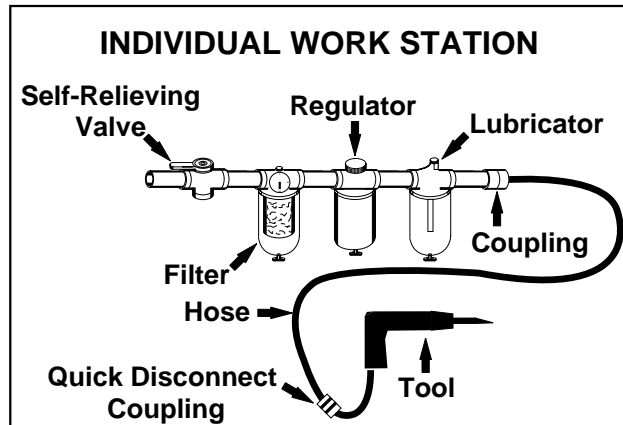


Correct selection of the chisel or other implement is important. Dull edges on the chisel ormoil point cause the energy of the percussion blow to be absorbed by the tool itself, instead of the workpiece, increasing the chance of chisel breakage. When operating percussion tools in explosive or flammable environments, use only non-sparking chisels or implements such as those made from beryllium copper. Also, do not use cupped rivet sets with Cleco percussion tools to drive nails. Blows not centered on the nail can cause the nail to ricochet off the work and strike the user.

Safety Recommendations

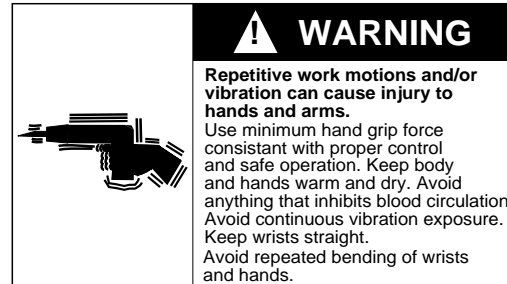


Before removing a tool from service, after completing a job, or changing chisels or other bits, make sure the air line is shut off and drained of air. This will prevent the tool from operating if the throttle is accidentally engaged. Use of a self-relieving valve within reach of the user of the tool is highly recommended.



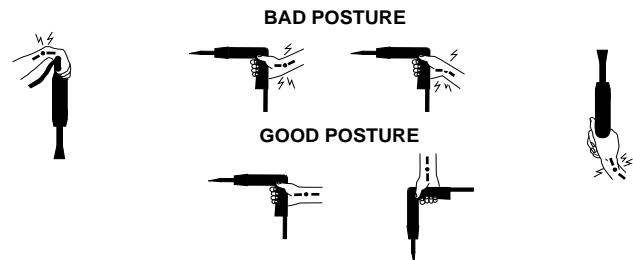
WARNING Do not operate or trigger any percussion tool unless the chisel, scaling tool, rivet set, or other implement is in the tool and in contact with the workpiece or worksurface. Never point any percussion tool in the direction of another person or yourself, or deliberately eject a chisel. Failure to do so can cause serious injury and/or damage the tool.

Chisel or rivet set retainers are recommended and furnished as standard equipment. **Periodic inspection of the retainer for wear or damage is recommended since these devices can receive heavy abuse, particularly if the tool is run off the workpiece. Damaged retainers are dangerous, and can allow the ejection of a chisel or other implement. They must be replaced as necessary. Only use safety retainer type chisels, as shown in the operating instructions and service manual.** Also, it is good safety practice to erect suitable barriers to protect persons in surrounding or lower work areas from possible ejected tools.



Some individuals may be susceptible to disorders of the hands and arms when performing tasks consisting of highly repetitive motions and/or exposure to extended vibration. Cumulative trauma disorders such as carpal tunnel syndrome and tendonitis may be caused or aggravated by repetitious, forceful exertions of the hands and arms. Vibration may contribute to a condition called Raynaud's Syndrome. These disorders develop gradually over periods of weeks, months, and years. It is presently unknown to what extent exposure to vibrations or repetitive motions may contribute to the disorders. Hereditary factors, vasculatory or circulatory problems, exposure to cold and dampness, diet, smoking and work practices are thought to contribute to the conditions.

Any tool operator should be aware of the following warning signs and symptoms so that a problem can be addressed before it becomes a debilitating injury. Any user suffering prolonged symptoms of tingling, numbness, blanching of fingers, clumsiness or weakened grip, nocturnal pain in the hand, or any other disorder of the shoulders, arms, wrists, or fingers is advised to consult a physician. If it is determined that the symptoms are job related or aggravated by movements and postures dictated by the job design, it may be necessary for the employer to take steps to prevent further occurrences. These steps might include, but are not limited to, repositioning the workpiece or redesigning the workstation, reassigning workers to other jobs, rotating jobs, changing work pace, and/or changing the type of tool used so as to minimize stress on the operator. Some tasks may require more than one type of tool to obtain the optimum operator/tool/task relationship.



Safety Recommendations

The following suggestions will help reduce or moderate the effects of repetitive work motions and/or extended vibration exposure:

- Use a minimum hand grip force consistent with proper control and safe operation
- Keep body and hands warm and dry (cold weather is reported to be a major factor contributing to Raynaud's Syndrome)
- Avoid anything that inhibits blood circulation
 - Smoking Tobacco (another contributing factor)
 - Cold Temperatures
 - Certain Drugs
- Tasks should be performed in such a manner that the wrists are maintained in a neutral position, which is not flexed, hyperextended, or turned side to side
- Stressful postures should be avoided — select a tool appropriate for the job and work location
- Avoid highly repetitive movements of hands and wrists, and continuous vibration exposure (after each period of operation, exercise to increase blood circulation)
- **Use quality abrasive wheels** (the primary source of vibration when using a grinder is a wheel that is out of balance, out of round, untrue, or possibly any combination of all three)
- Keep tool well maintained and replace worn parts (a preventive maintenance program with scheduled inspections is highly recommended)

Work gloves with vibration reducing liners and wrist supports are available from some manufacturers of industrial work gloves. Tool wraps and grips are also available from a number of different manufacturers. These gloves, wraps, and wrist supports are designed to reduce and moderate the effects of extended vibration exposure and repetitive wrist trauma. Since they vary widely in design, material, thickness, vibration reduction, and wrist support qualities, it is recommended that the glove, tool wrap, or wrist support manufacturer be consulted for items designed for your specific application.



Proper fit of gloves is important. Improperly fitted gloves may restrict blood flow to the fingers and can substantially reduce grip strength.

This information is a compilation of general safety practices obtained from various sources available at the date of production. However, our company does not represent that every acceptable safety practice is considered herein, or that abnormal or unusual circumstances may not warrant or require additional procedures. Your work may require additional specific safety procedures. Follow these procedures as required by your company. For more information, see the latest edition of ANSI B186.1, Safety Code for Portable Air Tools, available from the American National Standards Institute, Inc., 11 West 42nd street, New York, NY 10036.

⚠ WARNING

Eye protection must be worn when disassembling tool or when air line is turned on. A self-relieving valve in close proximity to the repair station to bleed off air is recommended.

OPERATING INSTRUCTIONS

The CLECO "E" series riveters and "16" series chippers are designed to operate on 90 psig air pressure using a 5/16" I.D. hose up to 8' in length. If additional length is required, a 3/8" I.D. or larger hose should be connected to the 5/16" hose.

The air hose should be cleared of accumulated dirt and moisture, then one-half (1/2) teaspoon of 10W machine oil should be poured into the tool's air inlet before connecting the hose to the tool.

Important: The handle should be checked after the first eight hours of operation and occasionally thereafter to make sure it is tight.

LUBRICATION

An automatic in-line filter-regulator-lubricator is recommended as it increases tool life and keeps the tool in sustained operation. The in-line lubricator should be regularly checked and filled with a good grade of 10W machine oil. Never use a heavy oil, as this will cause a loss of efficiency. Proper adjustment of the in-line lubricator is performed by placing a sheet of paper next to the exhaust ports and holding the throttle open for approximately 30 seconds. The lubricator is properly set when a light stain of oil collects on the paper. Excessive amounts of oil should be avoided.

the air inlet and operate the tool for a few seconds. Lubricate the tool as explained above after flushing.

STORAGE

In the event that it becomes necessary to store the tool for an extended period of time (overnight, weekend, etc.), it should receive a generous amount of lubrication at that time and again when returned to service. Store the tool in a clean and dry environment. Alternatively, chippers and scalers may be put in a bucket of kerosene or light oil for extended periods of storage such as weekends or plant shutdowns. The tool should always be lubricated before storage and when being returned to service.

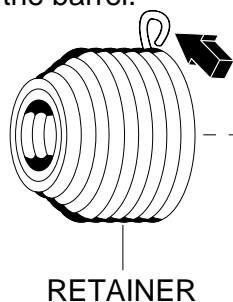
CHISEL or RIVET SET INSTALLATION & REMOVAL

⚠ WARNING

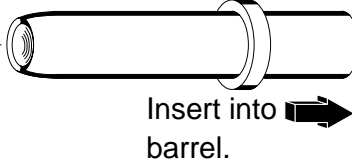
Turn off the air and drain the air hose before installing or removing any chisel or implement. Follow the procedure below for installing any chisel or implement. Reverse the procedure for removal.

"E" & "16" CHISEL or RIVET SET INSTALLATION & REMOVAL

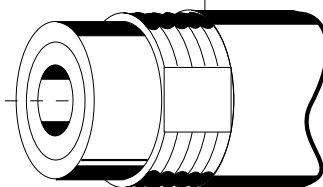
Pushing on tab in a counterclockwise direction, unscrew the retainer off the barrel.



CHISEL or
RIVET SET



BARREL



If the operation of the chipper becomes sluggish or erratic, pour one teaspoon of kerosene into

WARNING

Eye protection must be worn when disassembling tool or when air line is turned on. A self-relieving valve in close proximity to the repair station to bleed off air is recommended.

SERVICE INSTRUCTIONS

DISASSEMBLY

To disassemble the tool, remove the tool retainer No. 832953, and place the flats of the barrel in a vise with the handle facing upward. Remove the handle locking clip No. 832565, and unscrew the handle. The complete valve assembly can now be removed from the rear of the barrel. Remove the barrel from the vise and invert it to remove the plunger.

Check the following paragraphs for the disassembly instructions on the particular handle being used on the tool.

AJ HANDLE

Clamp the handle No. 832802, in the vise and using a suitable punch, drive out the throttle lever pin No. 844653. This will allow the throttle lever No. 832142, to be removed. Unscrewing the throttle valve cap No. 832207, allows the throttle valve mechanism to drop out. Remove the inlet bushing No. 841553, for cleaning and inspection of the air screen.

BWD HANDLE

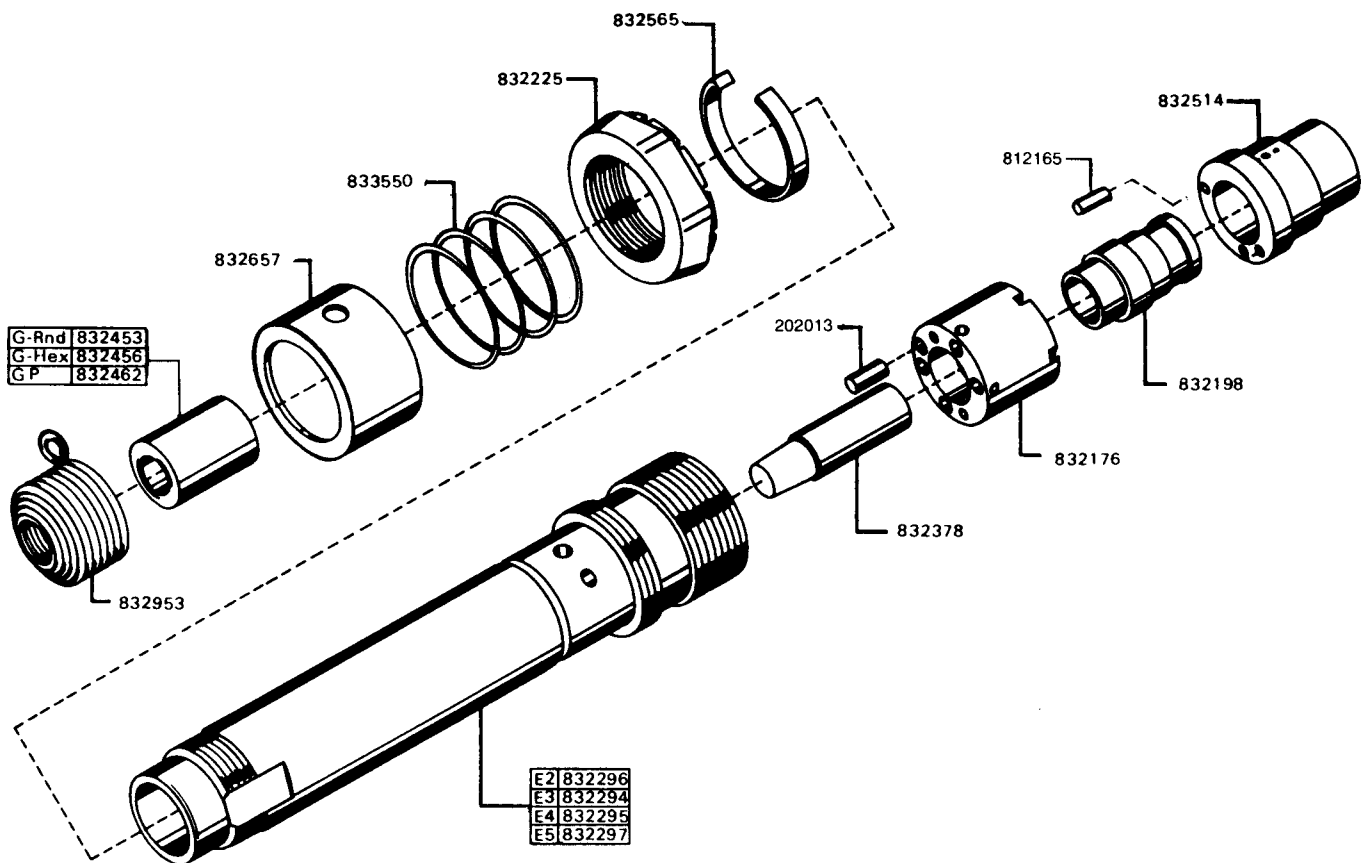
Clamp the handle No. 869972, in the vise with the inlet bushing No. 867916, up. Unscrewing the inlet bushing will allow the throttle valve mechanism to drop out.

REASSEMBLY

The tool is reassembled in the reverse order of disassembly. Wash all parts thoroughly in a solvent before reassembly. Seals and "O"-Rings should be replaced if they are damaged or deteriorated in any way. Prepare the threads on the barrel and in the handle with a high grade thread lubricant before assembling. Make sure the threads are clean before lubricating. If a new throttle pin bushing is installed in the handle, it should be reamed to fit the throttle valve pin. The screen in the inlet bushing should be blown out in the reverse of normal air flow.

Install the throttle valve cap No. 832207, into the "AJ" handle with Locktite™ No. 271.

All air passages in the barrel and valve assembly should be checked to make sure that they are not clogged with any dirt or foreign matter. After reassembly, place teaspoon of 10W machine oil in the handle bushing before attaching the air hose. This will insure immediate lubrication of all parts as soon as the air is applied. Check the operation of the tool before installing the handle locking clip No. 832565.

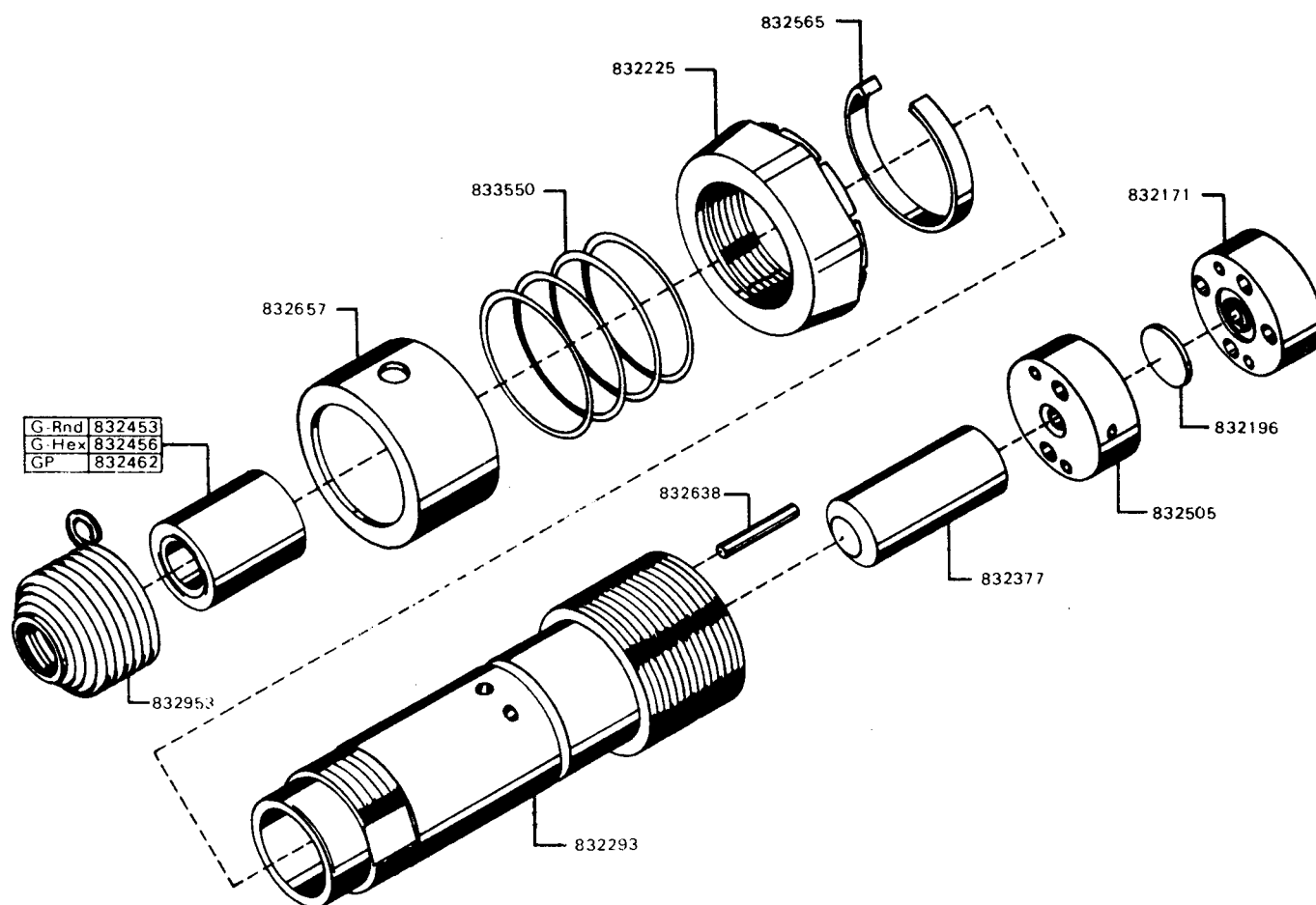


PARTS LIST— "E" RIVETERS

Part No.	Name of part	Qty.	Part No.	Name of part	Qty.
202013	Valve Button Pin (Lower)	1	832456	Tool Nose (G-hex)-Opt.	832378
812165	Valve Button Pin (Upper)	1	832462	Tool Nose (GP)-Opt.	832453
832176	Valve Block Button	1	832514	Valve Block	832456
832198	Valve	1	832565	Handle Locking Clip	832462
832225	Locking Ring	1	832657	Exhaust Deflector	832514
832294	Barrel (E-3 only)	1	832953	Tool Retainer	832565
832295	Barrel (E-4 only)	1	833550	Exhaust Deflector Spring	
832296	Barrel (E-2 only)	1	EXTRA EQUIPMENT		
832297	Barrel (E-5 only)	1	832908	Non-Sticking plunger (for use with 837122)	
832378	Plunger	1	837122	Ajax retainer	
832453	Tool Nose (G-rnd.)-Opt.	1			

The complete valve block can be purchased as subassembly - 831116.

The exhaust deflector and spring can be purchased as a subassembly - 831130.

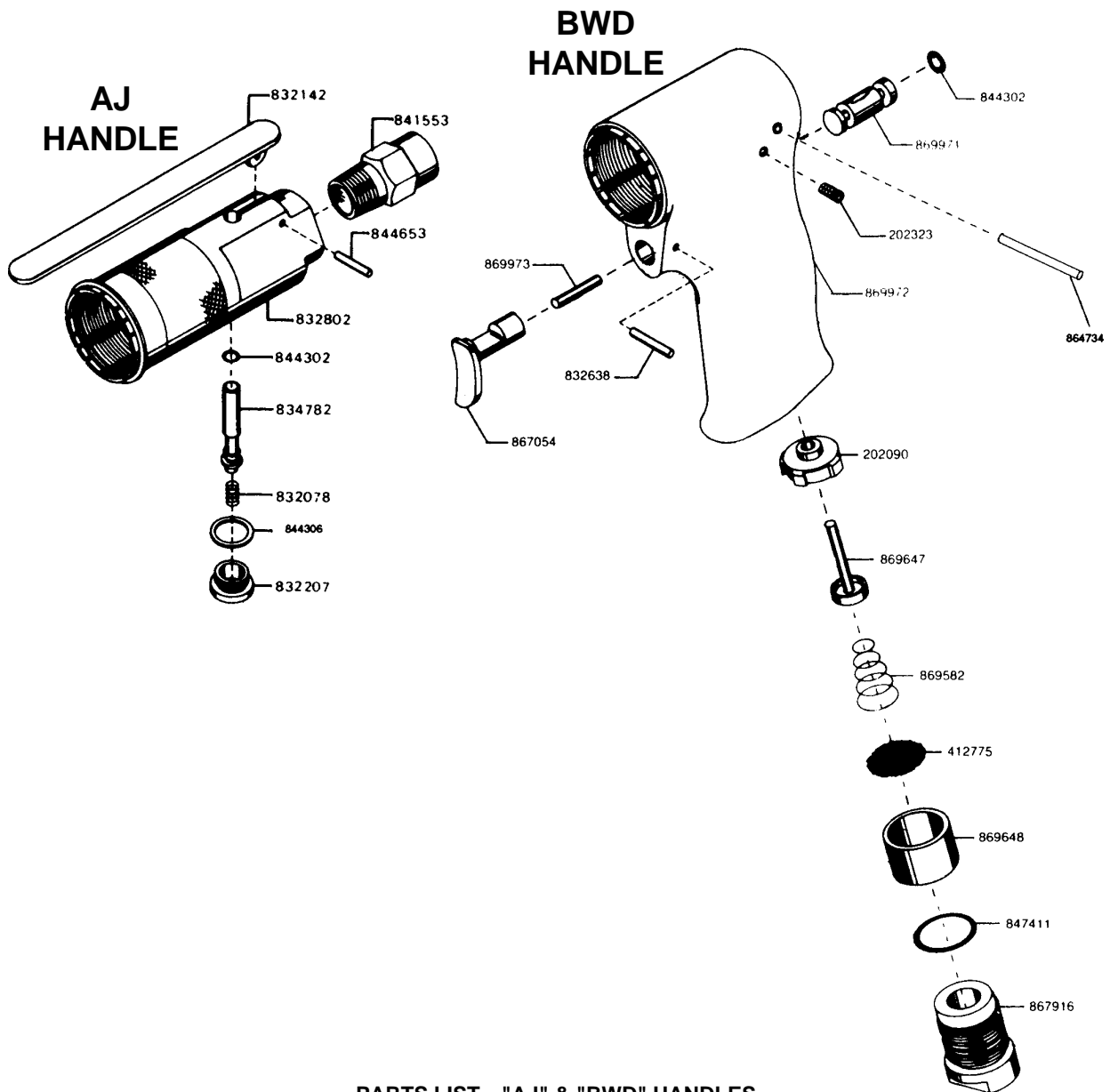


PARTS LIST— "16" RIVETERS

Part No.	Name of part	Qty.	Part No.	Name of part	Qty.
832171	Valve Block Button	1	832505	Valve Block (incl. 832638)	1
832196	Valve	1	832565	Handle Locking Clip	1
832225	Locking Ring	1	832638	Valve Block Pin	2
832293	Barrel	1	832657	Exhaust Deflector	1
832377	Plunger	1	832953	Retainer	1
832453	Tool Nose (G-rnd.)-Opt.	1	833550	Exhaust Deflector Spring	1
832456	Tool Nose (G-hex.)-Opt.	1			
832462	Tool Nose (GP)-Opt.	1			

The complete valve block can be purchased as subassembly - 831106.

The exhaust deflector and spring can be purchased as a subassembly - 831130.



PARTS LIST—"AJ" & "BWD" HANDLES

"AJ" HANDLE					
PART NO.	NAME OF PART	QTY.	PART NO.	NAME OF PART	QTY.
832078	Throttle Valve Spring	1	834782	Throttle Valve (incl 844302)	1
832142	Throttle Lever	1	841553	Inlet Bushing	1
832207	Throttle Valve Cap	1	844302	"O"-Ring 5/32" x 9/32"	1
832802	Backhead	1	844306	"O"-Ring 5/16" x 7/16"	1
			844653	Throttle Lever Pin	1

"BWD" HANDLE					
PART NO.	NAME OF PART	QTY.	PART NO.	NAME OF PART	QTY.
202090	Throttle Valve	1	867916	Inlet Bushing	1
202323	Metering Valve Screw	1	869582	Throttle Valve Spring	1
412775	Screen	1	869648	Throttle Valve Spacer	1
832638	Trigger Pin	1	869647	Pilot Valve	1
844302	"O"-Ring 5/32" x 9/32"	1	869971	Metering Valve	1
847411	"O"-Ring 11/16" x 13/16"	1	869972	Backhead	1
864734	Retainer Pin	1	869973	Throttle Link Pin	1
867054	Trigger	1			

The complete handles can be purchased as subassemblies
 AJ handle - Code No. 831217 BWD handle - Code No. 861940

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NOTES

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