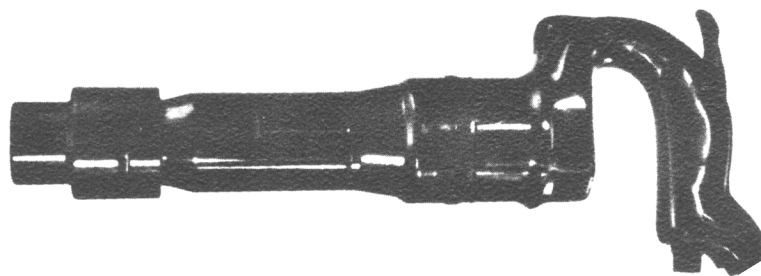


Cleco®

CH SERIES CHIPPERS



	CH	-	XX	-	XX	-	X
Series:							
CH							
Stroke:							
22	2 1/4						
32	3 1/4						
Nose Type :							
RD	Round						
HX	Hexagon						
Retainer :							
H	Standard for CH Models Only						
C	Cleco Type for CH Models Only						
Q	Quick Change for CH Round Collar Chisels Only						

NORTH AMERICA

CooperTools
P.O. Box 1410
Lexington, SC 29071

EUROPE

Cooper Power Tools GmbH & Co.
Postfach 30
D-73461 Westhausen

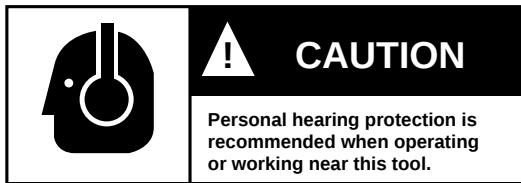
Safety Recommendations

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.



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.



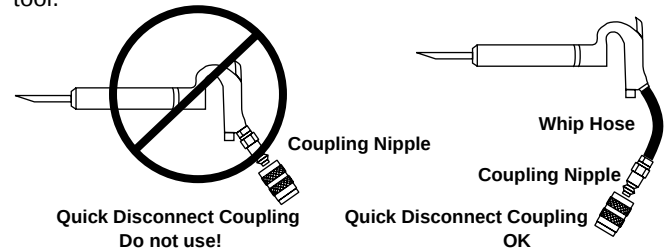
Hearing protection is recommended in high noise areas (above 85 dBA). Close proximity of additional tools, reflective surfaces, process noises, and resonant structures can substantially contribute to the sound level experienced by the operator. For additional information on hearing protection, refer 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 sharpening. Destroy and discard any chisel or implement that shows a crack.



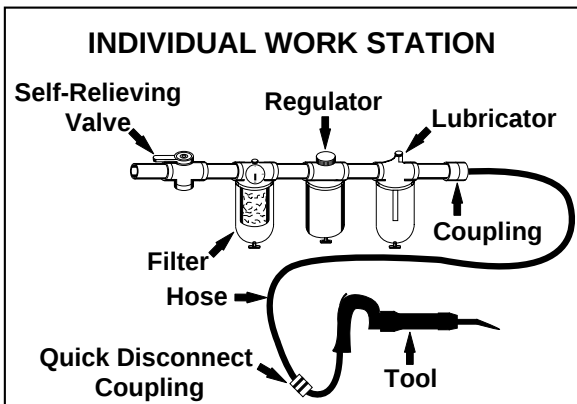
Correct selection of the chisel or other implement is important. Dull edges on the chisel ormoil point cause the energy of the percussion blow to be absorbed by the tool itself, instead of the workpiece, increasing the chance of chisel breakage. When operating percussion tools in explosive or flammable 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.



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

Safety Recommendations

the throttle is accidentally engaged. Use of a self-relieving valve within reach of the user of the tool is highly recommended.



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.

**WARNING**

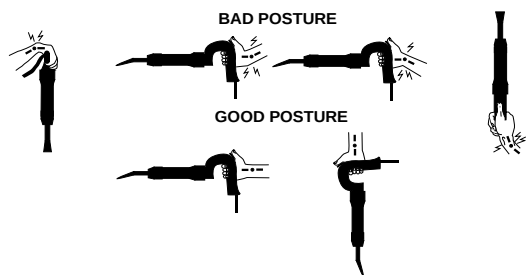


Repetitive work motions and/or vibration may cause injury to hands and arms.

Use minimum hand grip force.
Keep body and hands warm and dry.
Avoid anything that inhibits blood circulation.
Avoid continuous vibration exposure.
Keep wrists straight.
Avoid repeated bending of wrists and hands.

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 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.



- **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.**

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 "CH" series chipper is designed to operate on 90 psig air pressure using a 1/2" I.D. hose up to 8' in length. If additional length is required, a 3/4" I.D. or large hose should be connected to the 1/2" 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. Torque to 300 ft. lbs.

LUBRICATION

An automatic in-line filter-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.

If the operation of the chipper becomes sluggish or erratic, pour one teaspoon of kerosene into the air inlet and operate the tool for a few seconds. Lubricate the tool as explained above after flushing.

STORAGE

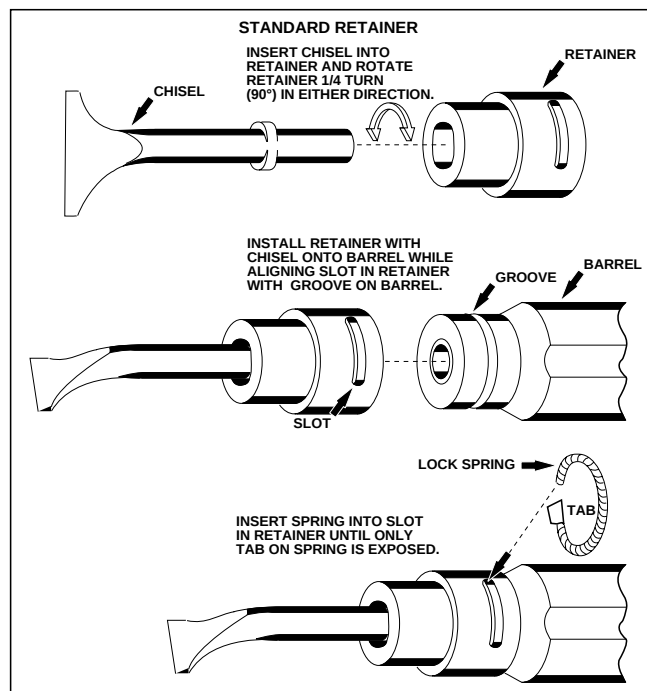
In the event that it becomes necessary to store the tool for an extended period of time (overnight, weekend, etc.), it should receive a generous amount of lubrication at that time and again when returned to service. Store the tool in a clean and dry environment. Alternatively, chippers and scalers may 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.

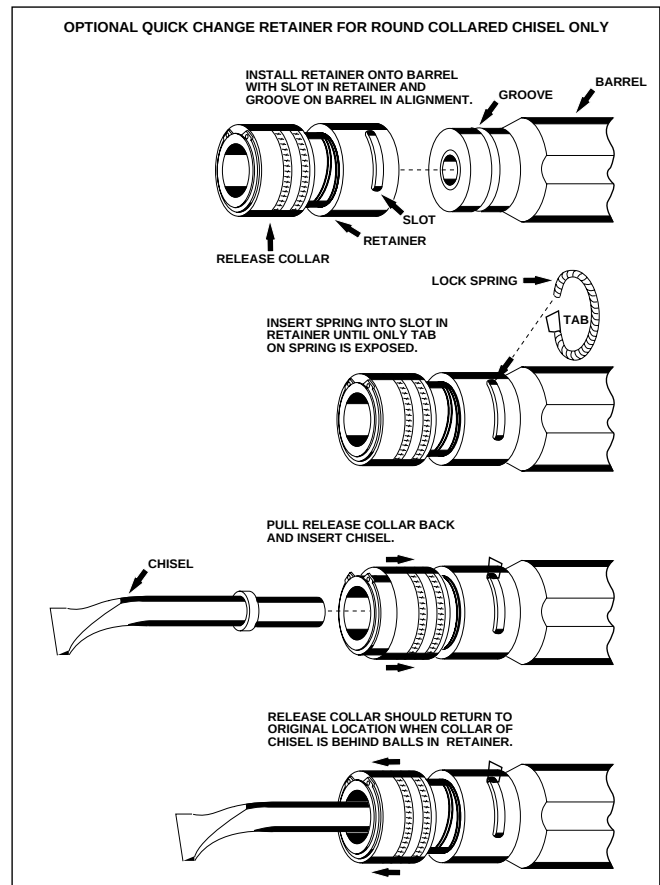
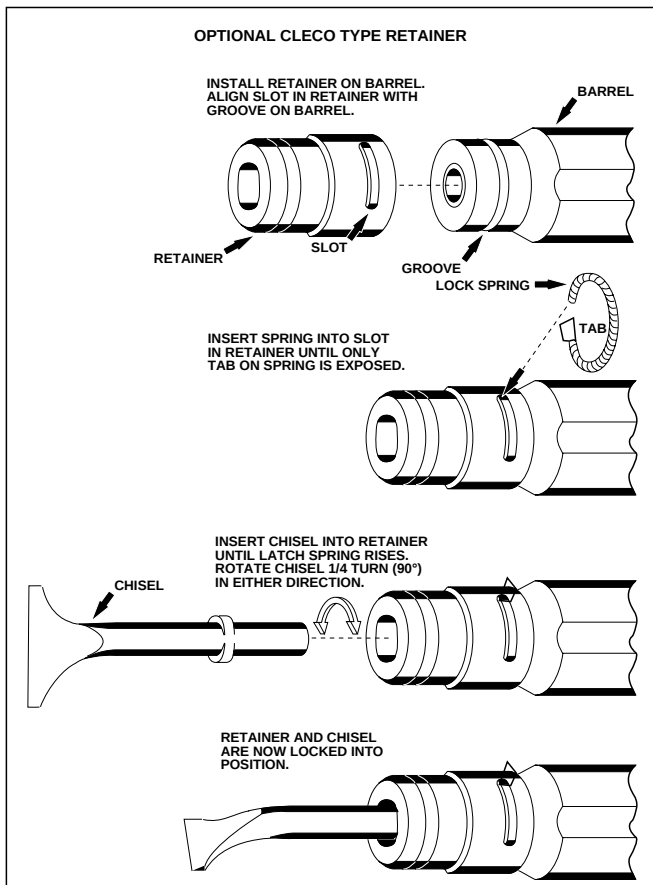
CHISEL INSTALLATION & REMOVAL



WARNING

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





⚠ 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, place the flats of the barrel in a vise with the handle, No. 833157, facing upward. Using a pair of spreader pliers, spread the exhaust deflector, No. 834674, open and slip it down on the barrel far enough to allow the handle locking ring to be disengaged from the handle. Unscrew the handle from the barrel and remove the valve block button, No. 832172, valve, No. 832195, and valve block, No. 832506. Remove the barrel from the vise and invert it, allowing the plunger to fall out. To disassemble the throttle valve, unscrew throttle valve cap, No. 833155, and remove the throttle valve spring, No. 834852, and throttle valve, No. 834854. Throttle valve pin, No. 834853, will drop out of throttle valve pin bushing, No. 832210.

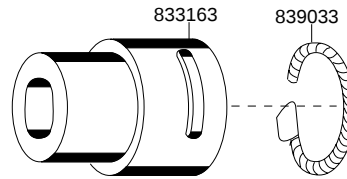
Remove handle bushing, No. 833471, and wash the inlet screen in a solvent. Blow air through the screen in reverse of normal air flow to remove any foreign matter. If the screen is torn or damaged, it should be replaced.

REASSEMBLY

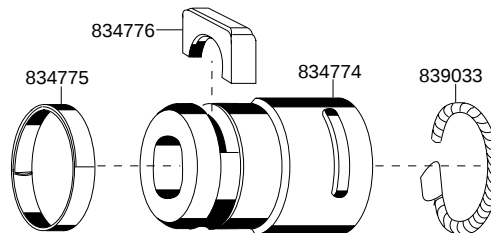
The tool is reassembled in the reverse order of disassembly. Wash all parts thoroughly in a solvent before reassembly. Prepare the threads on the barrel and in the handle with a high grade thread lubricant before assembling. Make sure the threads are clean before lubricating. The handle, No. 833157, should be torqued to 300 ft. lbs. 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. After the air hose is connected to the tool and the air supply turned on, there should be a slight amount of free play in the throttle lever, No. 834855, lack of which will allow the tool to run without being throttled. If no free play is evident, the flat end of the throttle valve pin should be ground off until there is a small amount of free play in the throttle lever.

"CH" SERIES CHIPPER RETAINERS

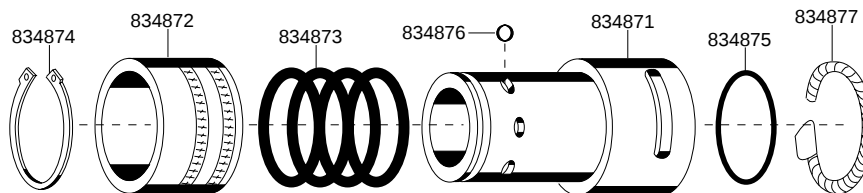
STANDARD RETAINER - 833163



OPTIONAL CLECO TYPE RETAINER - 831847



QUICK CHANGE RETAINER FOR ROUND COLLAR CHISEL ONLY - 831861



PART NO.	NAME OF PART	QTY.
833163	Standard Retainer (incl. 839033)	1
834774	Optional Cleco Type Retainer	1
834775	Optional Cleco Type Latch Spring	1
834776	Optional Cleco Type Latch	1
834871	Optional Quick Change Retainer Body	1
834872	Optional Quick Change Retainer Sleeve	1
834873	Optional Quick Change Retainer Spring	1
834874	Optional Quick Change Retainer Release Collar	1
834875	Optional Quick Change Retainer "O"-Ring	1
834876	Optional Quick Change Retainer Ball	6
834877	Optional Quick Change Retainer Lock Spring	1
839033	Standard and Optional Cleco Type Retainer Lock Spring	1

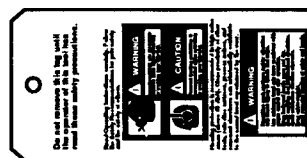
The Retainer subassemblies can be purchased using these Part Numbers:

Standard Retainer — 833163

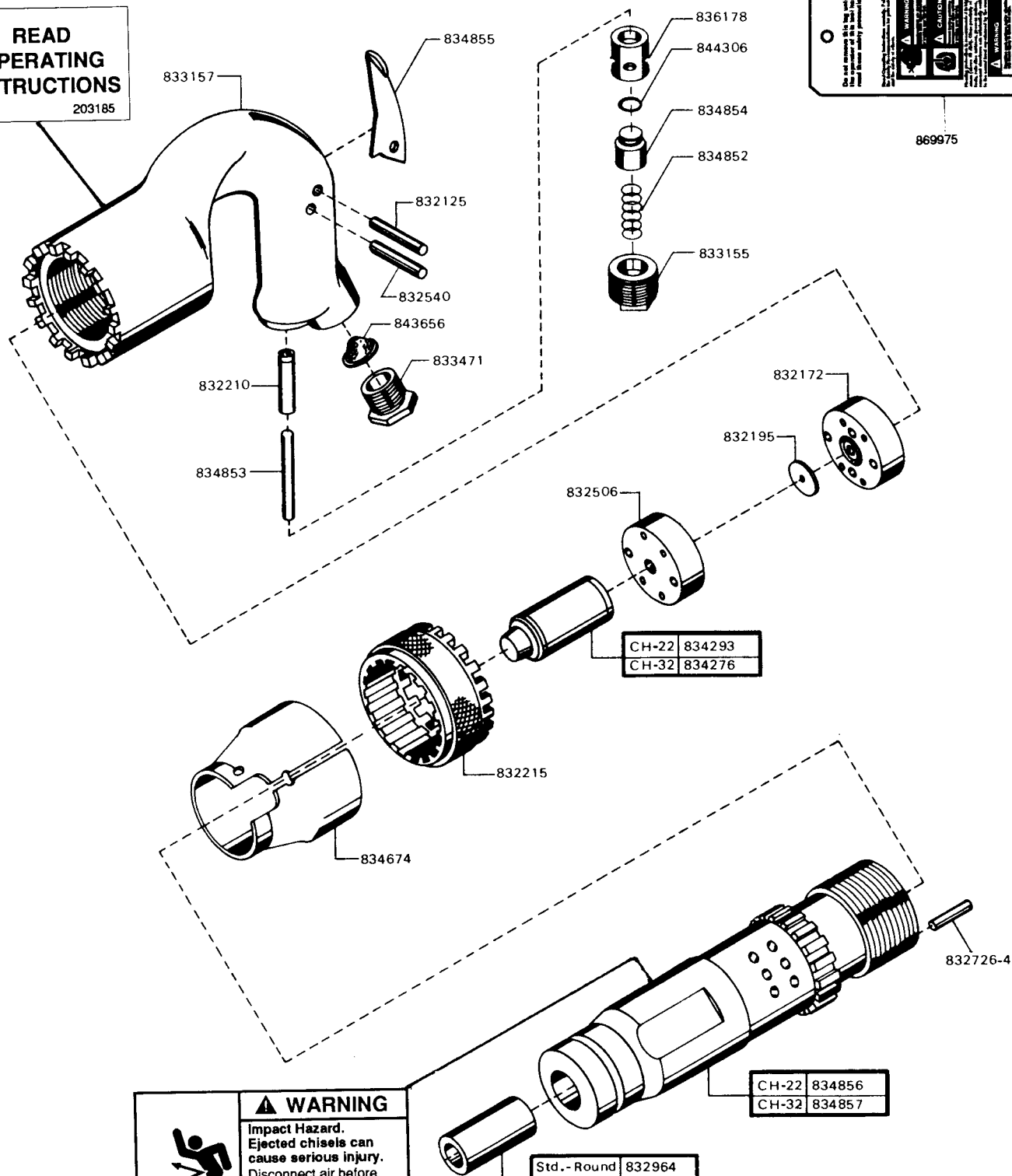
Optional Cleco Type Retainer — 831847

Optional Quick Change Retainer for Round Collar Chisel Only — 831861

**READ
OPERATING
INSTRUCTIONS**
203185



869975



⚠ WARNING
Impact Hazard.
Ejected chisels can
cause serious injury.
Disconnect air before
changing chisels. Do not
operate unless chisel is
in contact with workpiece.

203419

PART NO.	NAME OF PART	QTY.
203185	Warning Label	1
203419	Warning Label	1
832125	Throttle Lever Pin	1
832172	Valve Block Button	1
832195	Valve	1
832210	Throttle Pin Bushing	1
832215	Handle Locking Ring	1
832506	Valve Block	1
832540	Throttle Lever Stop Pin	1
832726	Valve Block Dowel Pin	2
832964	Tool Nose (Std. - Round)	1
832965	Tool Nose (Opt. - Hex)	1
833155	Throttle Valve Cap	1
833157	Handle (incl. 832210, 836178)	1
833471	Inlet Bushing	1
834276	CH-32 Plunger	1
834293	CH-22 Plunger	1
834674	Exhaust Deflector	1
834852	Throttle Valve Spring	1
834853	Throttle Valve Pin	1
834854	Throttle Valve	1
834855	Throttle Lever	1
834856	CH-22 Barrel	1
834857	CH-32 Barrel	1
836178	Handle Bushing	1
843656	Air Inlet Screen	1
844306	"O"- Ring 5/16" (7.49mm) x 7/16" (11.11mm)	1
869975	Warning Tag	1

The complete handle can be purchased as a subassembly. Code No. 831373.

REPLACEMENT OVERSIZE PLUNGERS		
OVERSIZE	CH-22	CH-32
.002" (.05 mm)	834296	834279
.004" (.102 mm)	834298	834281
.006" (.152 mm)	834391	834283
.008" (.203 mm)	834393	834285

REPLACEMENT OVERSIZE TOOL NOSES		
OVERSIZE	ROUND	HEX
.001" (.025 mm)	834184	834215
.002" (.05 mm)	834185	834216
.003" (.076 mm)	834186	834217
.004" (.102 mm)	834187	834218
.005" (.127 mm)	834188	834219
.006" (.152 mm)	834189	834220
.008" (.203 mm)	834190	

NOTES

[illegible]

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NOTES

[illegible]



CooperTools
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Phone: (803) 359-1200
Fax: (803) 359-2013
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