COOPER Tools

Operation & Service Manual
823033 **2/01**

Cleco®

WP2049 & WP2050 SERIES IMPACTS

W	P	S	-	XXXX	-	X

Impact Wrench:

Handle:

P	**Pistol Grip**

Tool Size:

2049
2050

Output Drive:

5	**5/8"**
6	**3/4"**
Q	**Quick Change**
R	**Ring Retainer**

NORTH AMERICA

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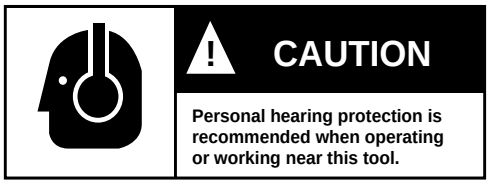
SafetyRecommendations

For your safety and the safety of others, read and understand the safety recommendations before operating an impact wrench.

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. 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, unless they create a greater hazard.**

- **Do not wear loose fitting clothing, or clothing that may restrict movement, become entangled or in any way interfere with the safe operation of the impact.**

Cleco impact wrenches are designed to operate on 90 psig (6.2 bar) maximum air pressure. If the tool is properly sized and applied, higher air pressure is unnecessary. Excessive air pressure increases the loads and stresses on the tool parts, sockets, and fasteners and may result in breakage. 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 endanger adjacent personnel, clear air hose of accumulated dust and moisture. Before removing a tool from service or changing sockets, make sure the air line is shut off and drained of air. This will prevent the tool from operating if the throttle is accidently engaged.

Never use the air hose for supporting, lifting, or lowering the tool. Use a safety line or cable on the tool when working in elevated areas.

Tools with exposed throttles should not be used where obstructions can hold the throttle in the “on” position. An impact wrench operating in reverse will move backwards as a nut is removed and can trap an operator's hand, making it difficult to release an outside trigger. Inside trigger or pistol grip tools are advised for close quarter operation.

Only use sockets designed for use with impact wrenches. Never use a hand tool socket on an impact wrench. Hand tool sockets can break, resulting in a hazard from flying pieces. Inspect sockets, retainers, and drives regularly for wear or damage, and replace as necessary. Worn sockets reduce power, cause drive wear, and increase the chance for breakage and should not be used.

WARNING

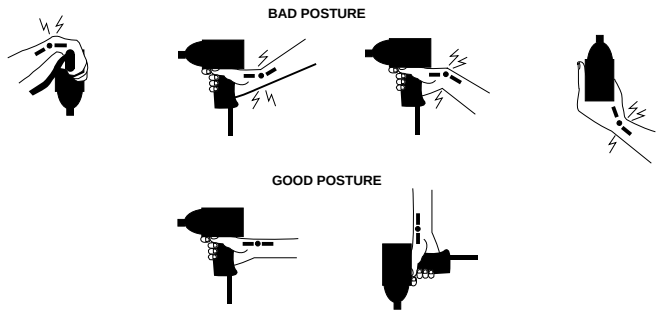
Repetitive work motions and/or vibration may cause injury to hands and arms.

Use minimum hand grip force consistent with proper control and safe operation.
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.

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, vascular or circulatory problems, exposure to cold and dampness, diet, smoking and work practices are thought to contribute to the conditions.

SafetyRecommendations

Tool operators 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.



- **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.

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
- Avoid anything that inhibits blood circulation
  - —Smoking Tobacco
  - —Cold Temperatures
  - —Certain Drugs
- Keep wrists as straight as possible
- Avoid highly repetitive movements of hands and wrists, and continuous vibration exposure

Work gloves with vibration reducing liners and wrist supports are available from some manufacturers of industrial work gloves. These gloves are designed to reduce and moderate the effects of extended vibration exposure and repetitive wrist trauma. Since they vary widely in design, material, vibration reduction, and wrist support qualities, it is recommended that the glove manufacturer be consulted for gloves designed for your specific application. **WARNING! Proper fit of gloves is important. Improperly fitted gloves may restrict blood flow to the fingers and can substantially reduce grip strength.**

Also note that various tool wraps are available from a number of different manufacturers. Like gloves, these wraps are also intended to reduce and moderate the effects of extended vibration exposure. They vary widely in design, material, thickness, vibration reduction, effectiveness, and durability, so consideration must be given to choosing the proper wrap for the specific application.

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 offered 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.

Warnings

The warnings found on these tools are an essential part of the product. Warnings should be checked periodically for legibility. Replace warnings when missing or when the information can no longer be read. Replacements can be ordered as any spare part.

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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.

These operating instructions and service manual should accompany tool if it is subsequently sold or ownership is changed.

OPERATING INSTRUCTIONS

OPERATION
The WP-2049 and WP-2050 Impact Wrench is designed to operate on 90 psig (6.2 bar). The minimum hose size is 3/8" (10mm).

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. 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 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. In the event an in-line lubricator is not used, the oil reservoir in the handle should be utilized.

The oil reservoir marked "30W Oil" should not require attention until the tool is torn down for inspection purposes. However, if the tool is on the application for an unduly long period of time, the plug should be removed and the reservoir checked for the presence of oil. If oil is required, approximately 1/2 fluid ounce (16ml) of 30W oil should be added to the oil reservoir.

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. The tool should be stored in a clean and dry environment.

SERVICE INSTRUCTIONS

DISASSEMBLY
Loosen and remove the four (4), housing bolts. This will allow the anvil housing and impact mechanism to be removed from the front of the motor housing. The motor unit may now be slipped out the rear of the motor housing.

Clamp the hammer, No. 869325, horizontally in a soft-jawed vise and drive the anvil away from the hammer, using a soft hammer. This will allow the anvil pin, No. 867437, spring clip, No. 869336, and the hammer spring, No. 869345, to be removed from the front of the cam shaft, No. 869322. This will allow the cam shaft and related components to be removed from the rear of the hammer.

Slip the two (2) bearing plates off the rotor and remove the cylinder and six (6) rotor blades.

Unscrewing the air inlet bushing will allow the throttle valve to be removed for inspection of the throttle valve seal.

Remove the air inlet screen for cleaning and inspection.

REASSEMBLY
All parts should be cleaned in a solvent and inspected for wear or damage. If rotor blades measure less than 5/16" (7.9mm) on either end, they should be replaced. Rotor bearings should be replaced if they show excessive looseness. Rotor shaft seals and the anvil seal should be replaced if they are badly worn or no longer flexible.

Clean the bearing plates and anvil housing with a solvent and coat the seal bores with "PERMATEX" Aviation Form-a-gasket #3H. Allow to air dry at least four (4) minutes before pressing in the seals. Press the rotor shaft seals into the bearing plates with their "lips" facing outward (visible after assembly). Press the anvil seal into the anvil housing with its "lips" toward the rear of the housing ("lip" not visible after assembly).

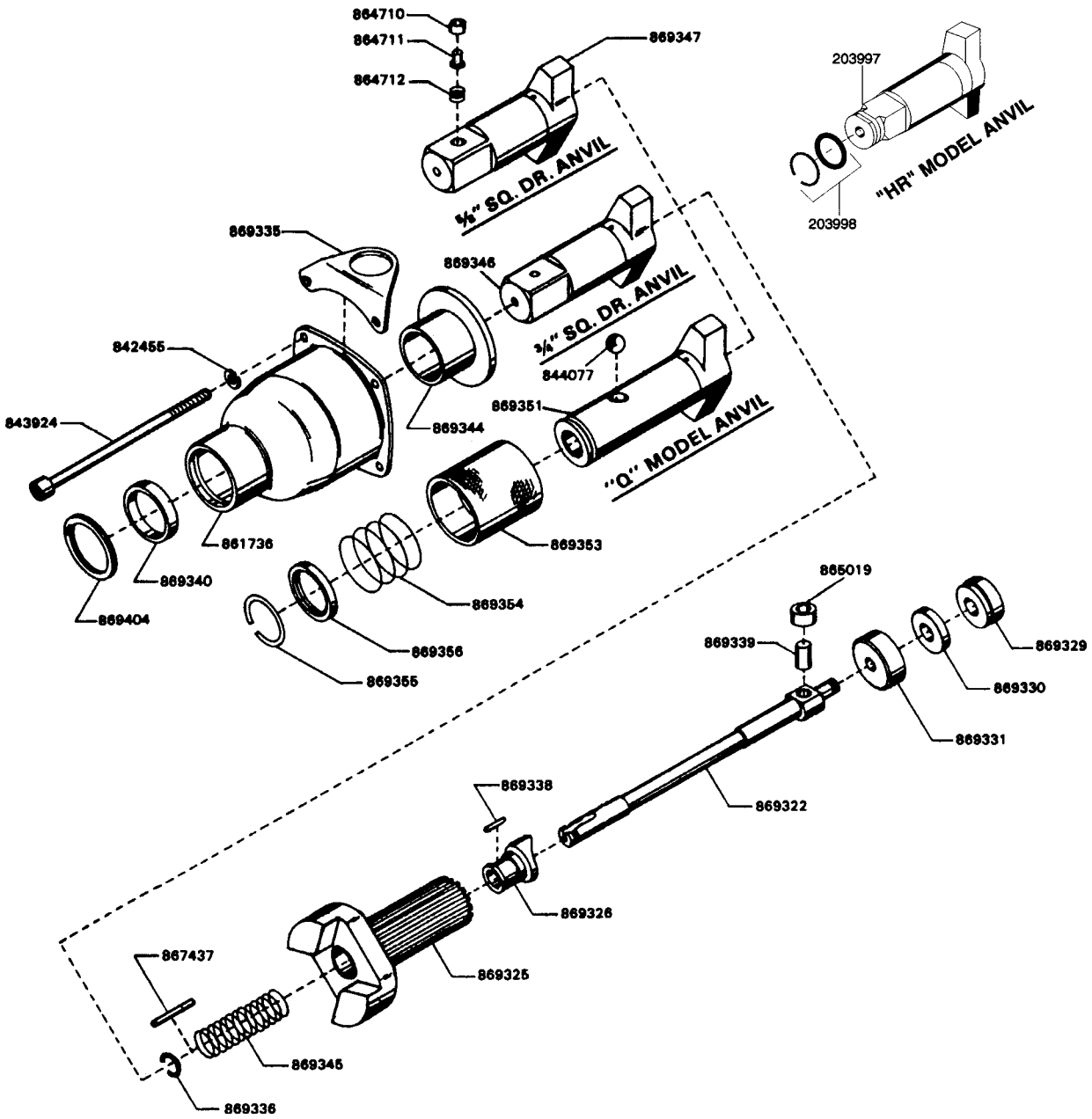
All impact mechanism and motor parts should receive a thin coating of 30W oil before reassembly. Insert the cam timing pin into the recess located on the small O.D. of the cam and then install the cam and pin into the rear of the hammer. Install the cam roller shaft in the cam shaft. Put the cam roller on the roller shaft and slip the butt plate, insulator, and shock absorber onto the rear of the cam shaft. Hold the cam shaft vertically on the work bench with the shock absorber down and tap the end of the cam shaft with a soft mallet to seat the cam shaft in the shock absorber.

Slip the cam shaft and related components through the cam and hammer assembly. Install the hammer spring, spring clip, and anvil pin onto the front of the cam shaft and hammer assembly. Rotate the spring clip to accept the anvil pin and then install the anvil on top of the assembly (be sure the slot in the anvil lines up with the anvil pin) and drive the anvil down until the spring clip engages the recess in the anvil.

During the assembly of the motor unit, the rear of the rotor can be identified by the "O"-ring, No. 869715, and the "O"-ring groove located in the I.D. of the rotor bore. The cylinder port "O"-rings can be coated with grease to retain them during assembly of the motor unit.

During reassembly of the complete tool, 3/8 fluid ounces (12ml) of 30W oil should be placed in the anvil housing. Install the anvil housing on the tool with the straight flange down (i.e., toward the trigger). Before installing the rear cap, 1/4 fluid ounce (8ml) of 30W oil should be added to the rear cavity of the rotor.

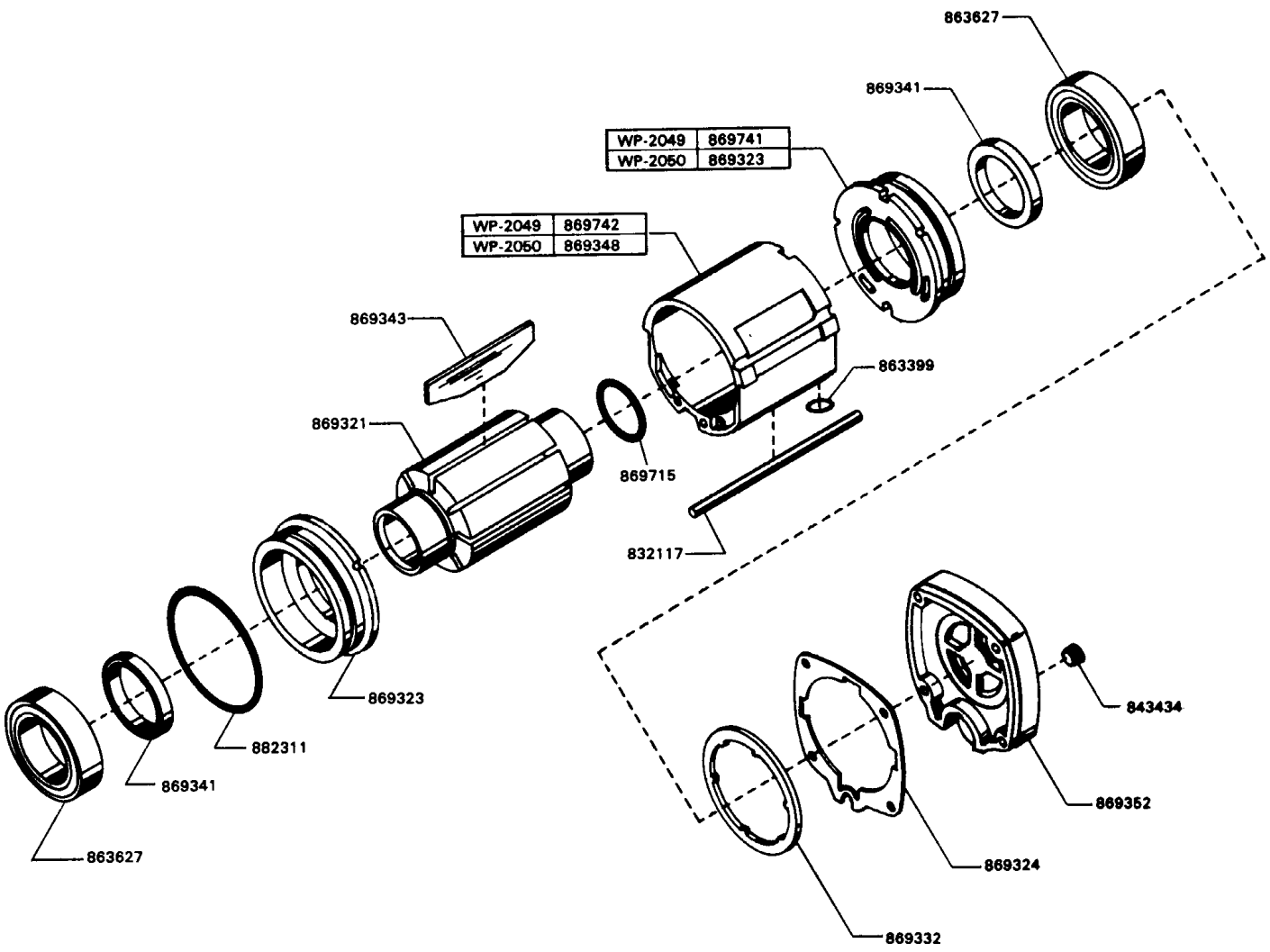
All tools should be tested after repair or replacement or parts to ensure that they are functioning properly.



PARTS LIST — IMPACT MECHANISM

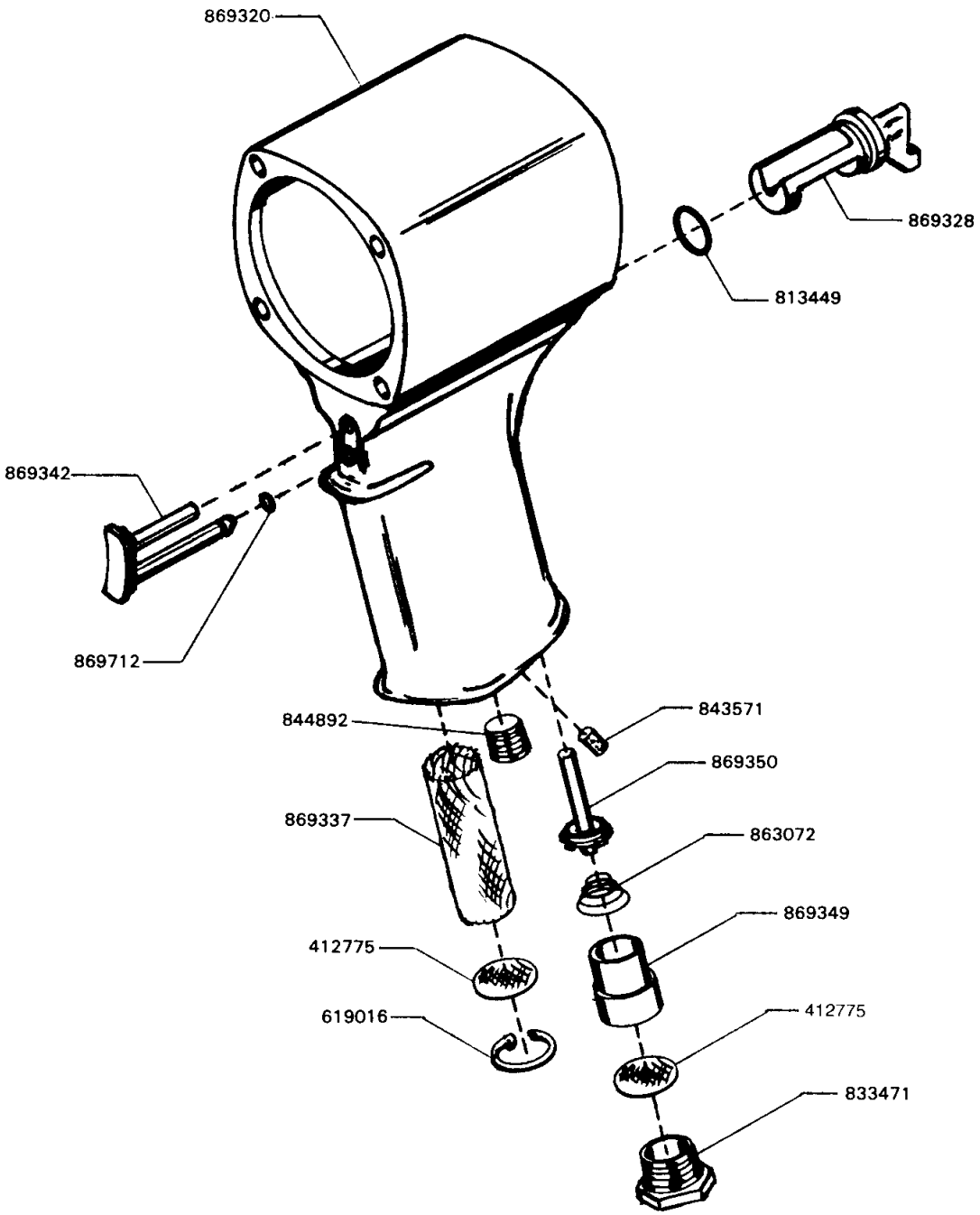
PART NO.	NAME OF PART	QTY.	PART NO.	NAME OF PART	QTY.
203997	Retainer Ring Anvil (incl. 203998)	1	869335	Hanger (Extra Equipment)	1
203998	Ring Retainer Kit (incl. "O"-ring & Ring)	1	869336	Spring Clip	1
842455	Lock Washer	4	869338	Cam Timing Pin	1
843924	Socket Head Cap Screw	4	869339	Cam Roller Shaft	1
844077	5/16" Steel Ball ("Q" Model)	1	869340	Anvil Housing Seal	1
861736	Anvil Housing (incl. 869340, 869344, 869404)	1	869344	Anvil Bushing	1
864710	Lock Pin Retainer Sleeve	1	869345	Hammer Spring	1
864711	Socket Lock Pin	1	869346	3/4" Sq. Dr. Anvil	1
864712	Lock Pin Spring	1	869347	5/8" Sq. Dr. Anvil (incl. 864710, 864711, 864712)	1
865019	Cam Roller	1	869351	"Q" Model Anvil (5/8" internal hex)	1
867437	Anvil Timing Pin	1	869353	Release Collar ("Q" Model)	1
869322	Cam Shaft	1	869354	Release Collar Spring ("Q" Model)	1
869325	Hammer	1	869355	Release Collar Retainer ("Q" Model)	1
869326	Cam	1	869356	Release Collar Washer ("Q" Model)	1
869329	Shock Absorber	1	869404	Retainer Ring	1
869330	Insulator	1			
869331	Butt Plate	1			

The "Q" Model anvil may be purchased as a complete subassembly using part no. 861858.



PARTS LIST — MOTOR UNIT

PART NO.	NAME OF PART	QTY.	PART NO.	NAME OF PART	QTY.
832117	Alignment Pin	1	869341	Rotor Shaft Seal	2
843434	30W Oil Fill Plug	1	869343	Rotor Blade	6
863399	"O"- Ring 7/16" x 9/16"	2	869348	Cylinder (WP-2050)	1
863627	Rotor Bearing	2	869352	Rear Cap	1
869321	Rotor (incl. 869715)	1	869715	"O"-Ring 15/16" x 1-1/16"	1
869323	Bearing Plate (WP-2049 Requires one Only)	2	869741	Rear Bearing Plate (WP-2049)	1
869324	Back Cap Gasket	1	869742	Cylinder (WP-2049)	1
869332	Motor Clamp Seal	1	882311	"O"-Ring 1-15/16" x 2-1/8"	1



PARTS LIST — MOTOR HOUSING

PART NO.	NAME OF PART	QTY.	PART NO.	NAME OF PART	QTY.
412775	Screen	2	869328	Reversing Valve	1
619016	Retianer Ring	1	869337	Muffler	1
813449	O-ring 5/16" X 1/2"	1	869342	Trigger (incl. 869712)	1
833471	Inlet Bushing	1	869349	Air Screen Sleeve	1
843571	Oiler Valve	1	869350	Throttle Valve	1
844892	10W Oil Fill Plug	1	869712	O-ring 5/64" X 13/64"	1
863072	Throttle Valve Spring	1			
869320	Motor Housing (incl. 843571)	1			

The complete motor housing can be purchased as a complete subassembly using part no. 861737

COOPER Tools

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