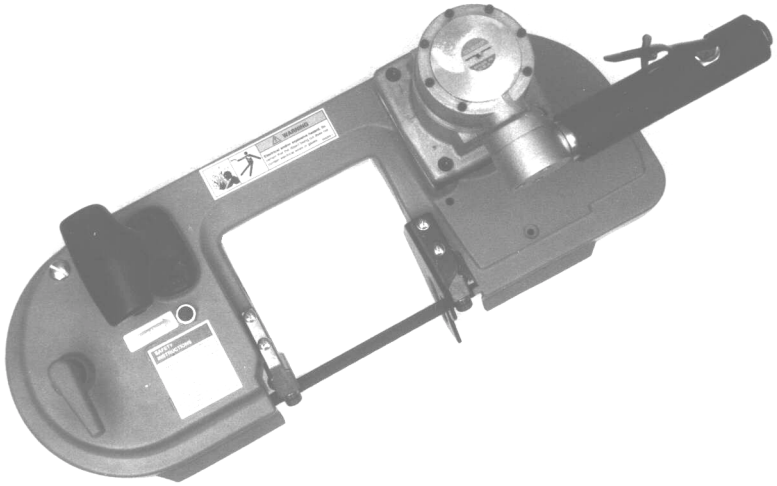
COOPER Tools

Operation & Service Manual
823090 **2/01**

Cleco®

136 Bandsaw



136	B	V	L

Series:
136

Tool Type:
B **Bandsaw**

Speed:
V **Variable**

Handle:
L **Inline (Lock-Off Lever)**

NORTH AMERICA

CooperTools
P.O. Box 1410
Lexington, SC 29071

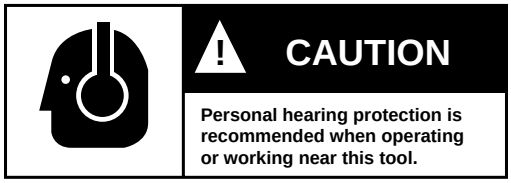
EUROPE

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

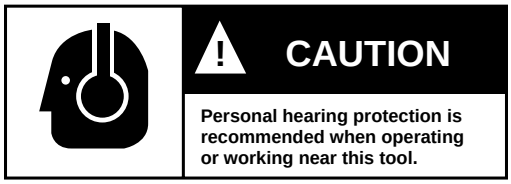
Safety Recommendations

For your safety and the safety of others, read and understand the safety recommendations before operating this saw.

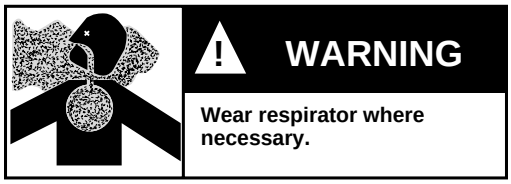
Always wear protective equipment.



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.



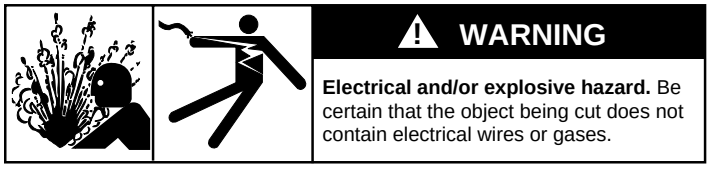
Hearing protection is recommended in high noise areas (above 85 dBA). Close proximity of additional tools, reflective surfaces, process noises, and resonant structures can substantially contribute to the sound level experienced by the operator. Proper hearing conservation measures, including annual audiograms 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.



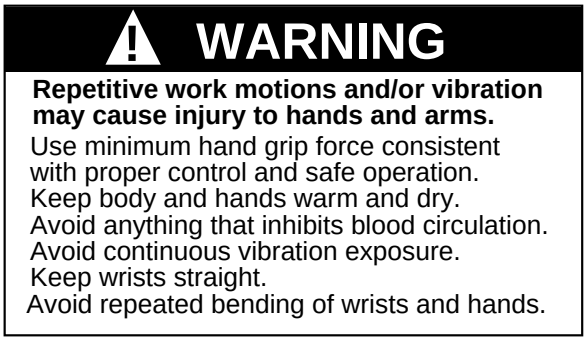
Other protective clothing should be worn as required, unless it creates a greater hazard. Do not wear loose fitting clothing or any jewelry. Gloves can be caught in the the rotating blade causing severe injury. Avoid inhaling dust resulting from the operation of this saw. Wear approved respirator or mask if ventilation is inadequate. Respirators should be selected, fitted, used and maintained in accordance with Occupational Safety and Health Administration and other applicable regulations.

This saw is designed to operate on 90 psig (6.2 bar) max. air pressure. Installation of a filter-regulator-lubricator in air supply line is highly recommended. Before tool is connected to air supply, check throttle for proper operation, i.e., throttle moves freely and returns to closed position. Clear air hose of accumulated dust and moisture. Be careful not to endanger adjacent personnel. Before removing tool from service or changing blades, make sure air line is shut off and drained of air. This will prevent tool from operating if throttle is accidently engaged. Do not use tool to drain residual air from air line. A self-relieving valve is recommended for this purpose.

Work Environment. Work areas should be kept clean and free from clutter. Visitors should be kept away from work area. The air hose should be suspended or placed to prevent damage to the hose or inadvertent tripping to workers. An improperly placed hose can be hooked by a vehicle or worker pulling the saw out of the user's hands or causing a loss of balance. After use the saw should be disconnected properly and stored.



Safe Use. Keep both hands on the saw and away from the cutting area while the blade is rotating. Blades should be kept sharp. Materials to be cut must be securely held to prevent movement. Be aware that end pieces may fall after being cut, and care must be exercised. Never use liquid coolants or cutting oils on the blade or band mechanism. Damage may occur to the blade guides and pulley tires. When cutting conduit or pipe, be certain that live electrical wires and explosive and/or harmful gases or liquids are not present.



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 exposureorders 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.

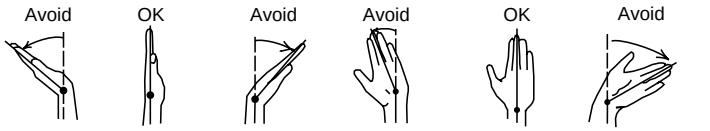
Tool operators should be aware of the following warning signs and symptoms so that a problem can be addressed before it becomes a debilitating injury. Any user suffering prolonged symptoms of tingling, numbness, blanching of fingers, clumsiness or weakened grip, nocturnal pain in the hand, or any other 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

Safety Recommendations

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.

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

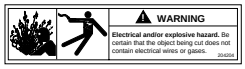
- Use a minimum hand grip force consistent with proper control and safe operation
- Keep body and hands warm and dry (cold weather is reported to be a major factor contributing to Raynaud's Syndrome)
- Avoid anything that inhibits blood circulation
  - — Smoking Tobacco (another contributing factor)
  - — 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)
- Keep tool well maintained and replace worn parts (a preventative maintanance program with scheduled inspections is highly recommended)

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. 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.

204203



204204

204737

READ SAFETY RECOMMENDATIONS BEFORE CONNECTING TOOL.

OPERATING INSTRUCTIONS

The Cleco bandsaw is designed to operate on 90 psig (6.2 bar) maximum air pressure, using a 5/16" (8mm) x 8' whip hose. If additional length is required, the next larger hose size may be connected to the 8' whip hose.

TO START AND STOP SAW

Connect air supply. Push the lock-off device foward (A),Fig.1, and depress the throttle lever (B), Fig.1, to start the saw. Releasing throttle lever will stop saw.

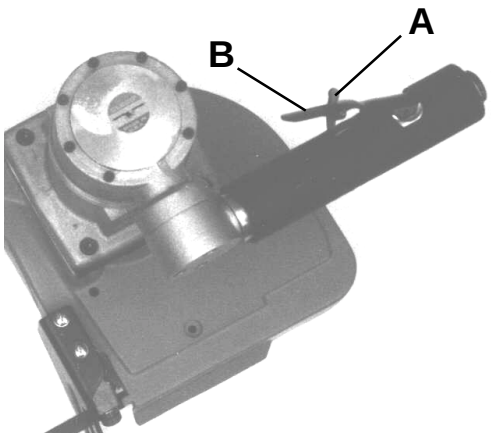


Fig. 1

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.

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.

TYPE OF MATERIALS

The Cleco bandsaw is designed to cut various types of material up to 4-3/4" diameter or 4-1/4" x 4-3/4" rectangular shape.

SELECTING THE BLADE

The Cleco bandsaw requires blades that are .020 thick, 1/2" wide, and 44-7/8" long. NOTE: Blades for stationary band saws are of different thickness than above and WILL NOT fit the precision blade guides on portable band saws. Therefore, they MUST NOT be used.

WHICH BLADE TO USE

In general, select a blade which will allow at least two teeth to be engaged in the material thickness. The thinner or the harder the material, the finer the blade teeth. The thicker or the softer the material, the coarser the blade teeth. Hi-speed steel blades stay sharp longer than alloy steel blades. Due to the many materials that can be cut, operator's experience will determine which blade will have the longest life for any specific operation.

USE OF LUBRICANTS

NEVER USE LIQUID COOLANT WITH YOUR BANDSAW. Damage to the blade guide bearings or rubber tires on the pulleys may result.

Bandsaw lube wax is available and recommended when cutting aluminum, brass and thick materials. Cast iron should be cut dry.

With the saw running, apply the wax momentarily to both sides of the blade. Reapply wax intermittently as needed.

⚠ WARNING

EXERCISE EXTREME CARE TO PREVENT HANDS FROM CONTACTING THE BLADE.

After prolonged cutting, the wax will cling to the pulleys of your band saw. This does not affect the operation of the machine. All that is necessary is to disconnect the machine from the air supply and wipe the wax from the pulleys.

TO CHANGE SAW BLADES

⚠ WARNING

DISCONNECT SAW FROM AIR SUPPLY.

TO REMOVE BLADE - Turn handle (A), Fig. 2, clockwise to release tension on the saw blade. Remove the blade, first from the pulleys and then from the blade guide.

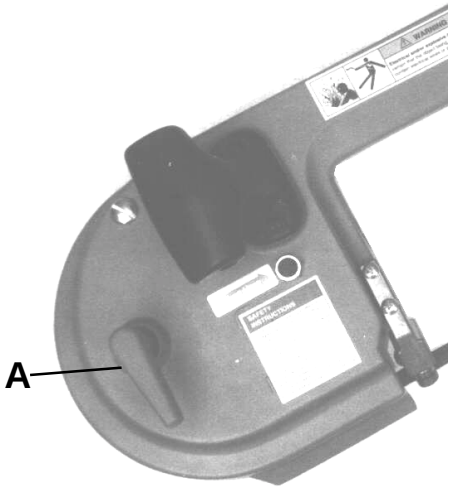


Fig 2.

Before installing a blade, clean chips and wax, which may have accumulated on blade guides and pulley tires.

TO INSTALL BLADE - install blade in blade guides and then position on pulleys. MAKE SURE TEETH ON LEFT SIDE OF MACHINE POINT TOWARD THE REAR OF THE MACHINE. See Fig. 3.

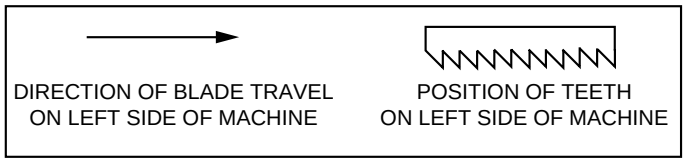


Fig. 3

Turn handle (A), Fig. 2, counterclockwise as far as it will go. This reinstates tension on saw blade.

Start and stop saw two or three times to seat blade on pulleys.

TO ADJUST BLADE TRACKING

This Bandsaw is equipped with an adjustable Blade Tracking Mechanism. When properly adjusted, the back edge of the blade will run lightly against at least one of the back-up rollers, but will not press heavily against the roller. If the blade fails to track correctly, adjust as follows:

1. **⚠ WARNING DISCONNECT SAW FROM POWER SOURCE.**

2. Use a 9/|6" wrench to loosen the adjustment locking nut (see Fig. 4), by turning it counterclockwise, one or two turns.

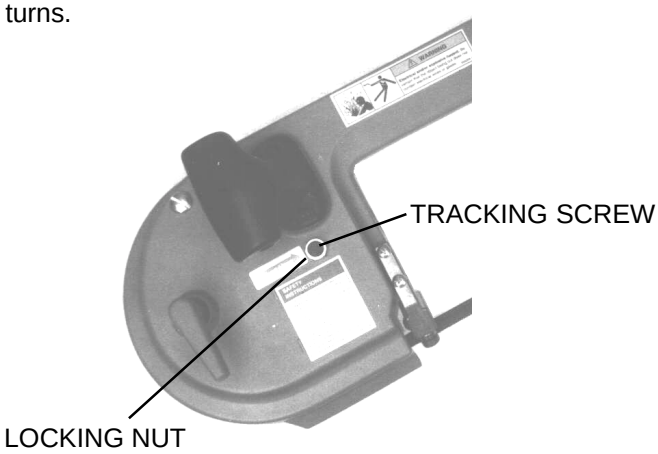


Fig. 4

3. Use a flat screwdriver to turn the tracking screw 1/4 turn. Turning the screw clockwise will move the blade further up, toward the blade guide rollers. Turning the screw counterclockwise will move the blade down, away from the blade guide rollers.

4. Tighten the adjustment locking nut.

5. Following the directions in TO START AND STOP SAW, operate the saw and observe blade tracking.

6. Repeat Steps 1 through 5 as necessary to achieve proper tracking.

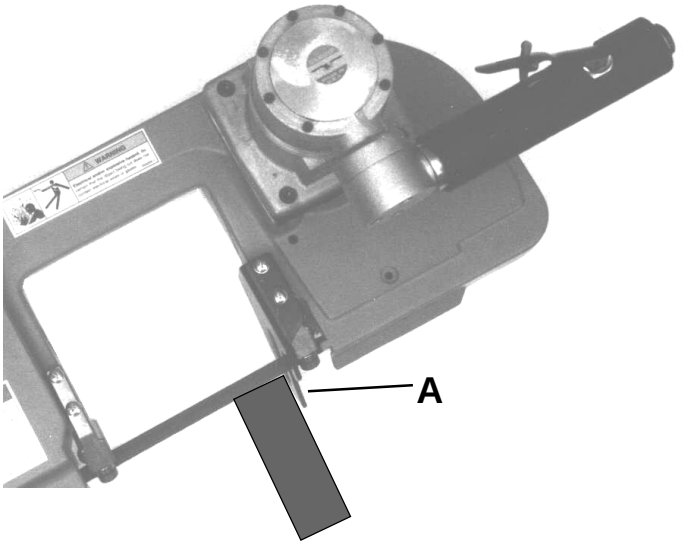


Fig. 5

HOW TO USE A PORTABLE BANDSAW

1. Verify material to be cut is firmly held to prevent movement.

2. Hold the saw as shown in Fig. 5, with the work stop (A) contacting the work and blade teeth clear of the work.

3. Turn saw "ON" and lower onto work. Allow weight of saw to control cutting pressure. Additional pressure will slow down speed of the blade and reduce cutting efficiency.

4. Hold saw straight in the cut. Any twisting or cocking of the blade results in shorter blade life.

⚠ CAUTION

5. **Stay clear of end pieces that may fall after being cut off.**

6. At completion of cut DO NOT allow saw to fall against work. HOLD SAW SECURELY.

7. Fig. 6 shows the proper cutting position for various shapes.

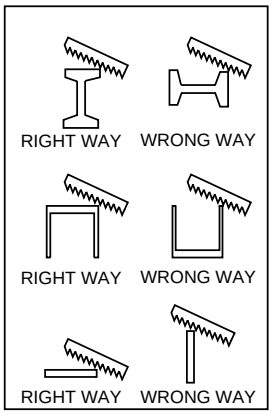


Fig. 6

MAINTENANCE
Periodically blow out all air passages with dry compressed air. Remove wax and chip buildup from pulley tires and blade guides. All plastic parts should be cleaned with a soft damp cloth. NEVER use solvents to clean plastic parts. They could possibly dissolve or otherwise damage the material.

SERVICE AND REPAIRS
All quality tools will eventually require servicing or replacement of parts due to wear from normal use. Repairs should be made by trained staff familiar with this product or by an authorized Cleco Service Center. Original factory replacement parts are recommended to maintain factory performance specifications. If you have any questions about this product, please contact your Cleco distributor or salesman.

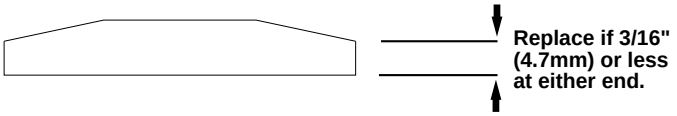
DISASSEMBLY
BACKHEAD
The backhead 204212, can be separated from the handle adapter 204206, by removing the retainer pin 204327. To gain access to this pin, carefully roll the grip sleeve 204213, back over itself beginning at the end adjacent to the handle adapter, and until the pin becomes visible. Note: If "O"-rings 844311 and 847272 (2) two, are replaced, do not lubricate. For inspection or replacement of the throttle valve or related parts, unscrew the inlet bushing 204220. The air inlet screen 863598, should be washed in a solvent and blown out in the reverse of normal air flow. Replace the screen if clogged or torn.

HANDLE ADAPTER & UPPER HOUSING
The handle adapter and upper housing 204210 should not be disassembled unless necessary. To disassemble handle adapter from upper housing remove (3) three hex cap screws 624820 and pull apart. To remove upper housing from lower housing, remove (7) seven hex cap screws 204198 and pull apart.

LOWER HOUSING & INTERMEDIATE PLATE
To disassemble the lower housing 204211 from the intermediate plate 201655, remove (4) four hex cap screws 845758 and lift complete unit off the intermediate plate. The secondary muffler can be removed for inspection and motor can be pulled out of lower housing. The primary muffler 204214 inside the lower housing can be removed from inside for inspection.

MOTOR
Use a suitable driver to drive the front rotor shaft out of the front rotor bearing. After removing the cylinder and rotor blades, the rear rotor shaft may be driven out of the rear rotor bearing.

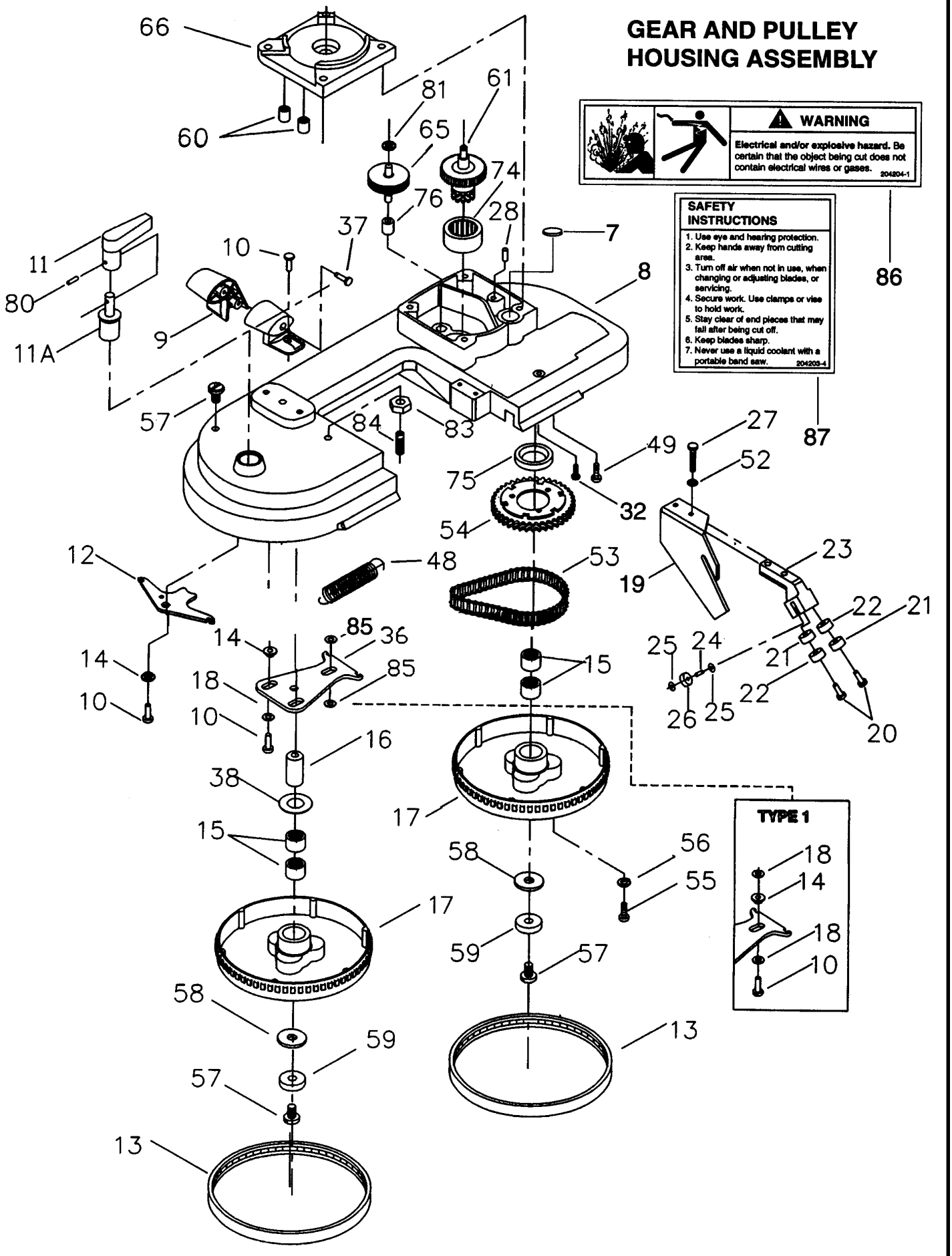
REASSEMBLY
The tool is reassembled in the reverse order of disassembly. Wash all parts in a solvent and inspect for damage or wear. It is recommended that new rotor blades be installed at each repair cycle. If not replaced, the used ones must measure a minimum of 3/16" (4.7mm) at both ends.



Replace bearings that are rough or have excessive end play. Install the front rotor bearing in the front bearing plate and measure the distance from the face of the bearing plate to the inner race of the bearing with the bearing race loaded rearward. Select or fit by sanding, a rotor collar .001" (.025mm) to .002" (.050mm) longer than this measurement. Install the rotor blades, cylinder rear bearing plate, and rear bearing on the rotor. After final assembly of the motor unit, the cylinder should be held securely but not tightly between the two plates. The rotor should not rub either plate.

Tighten all joints securely during reassembly. Place a few drops of 10W machine oil in the air inlet to ensure positive lubrication of all motor parts as soon as air is applied.

GEAR AND PULLEY HOUSING ASSEMBLY

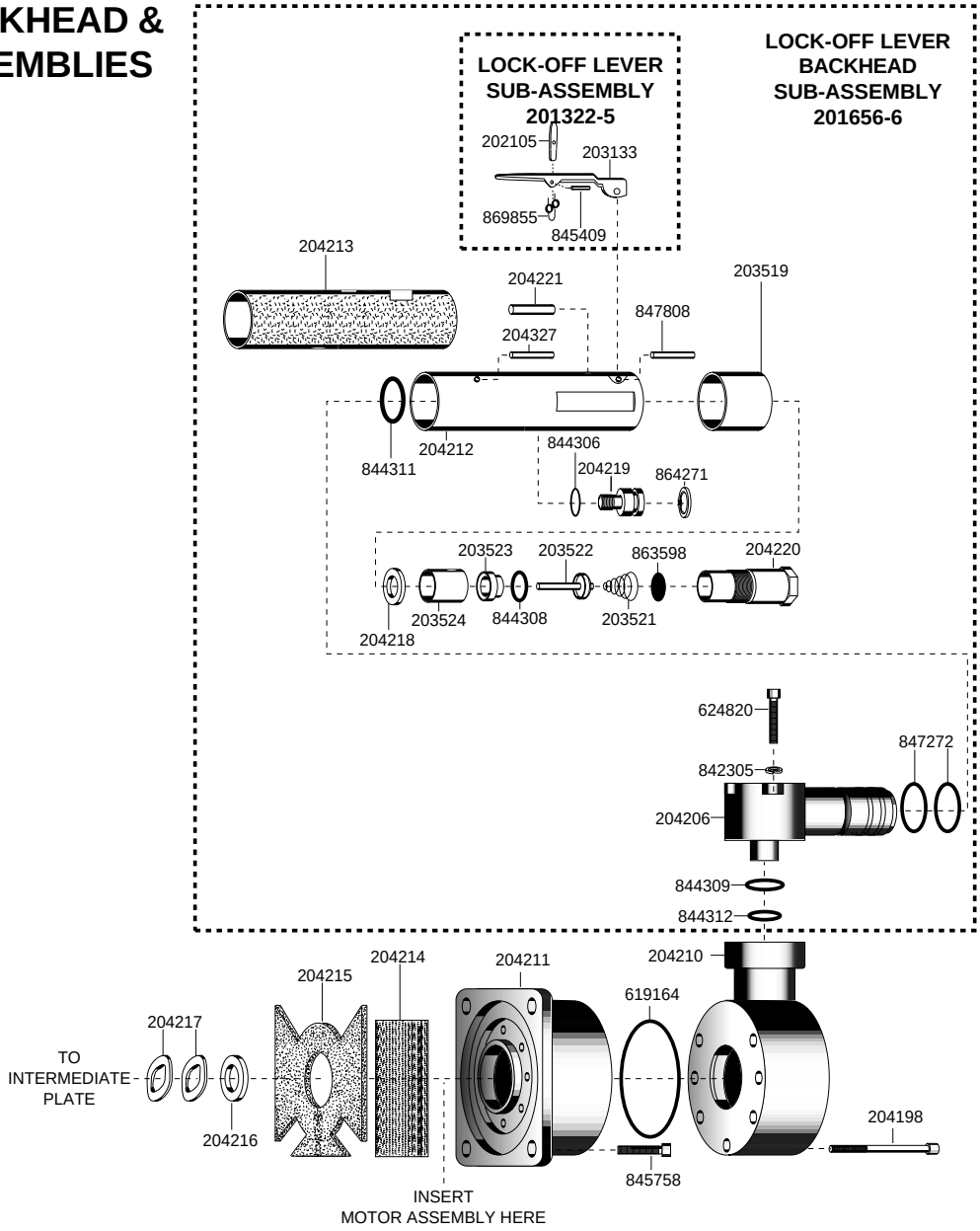


GEAR AND PULLEY HOUSING PARTS LIST

Ref. No.	Part No.	Name of Part
7	203096	Muffler
8*	201652	Pulley Housing Assembly, T2, Incl. 74, 75,76,83,84
9*	201649	Knob Set
10	204224	Screw
11	204229	Tension Lever
11A	204230	Tension Shaft
12	204231	Yoke
13	204232	Pulley Tire
14	204233	Bushing
15	204234	Bearing
16	204235	Pulley Shaft
17	204236	Pulley
18	204279	Washer
19	204237	Work Stop
20	204238	Screw
21	204239	Blade Guide Roller
22	204240	Blade Guide Bearing
23	204241	Blade Guide Holder
23*	201653	Blade Guide Hardware Package Incl. 20, 21,22,24,25,26,27,52
24	204242	Pin
25	204243	Washer
26	204244	Blade Guide Bearing
27	204245	Screw
32	204246	Screw
36*	201654	Yoke Kit, Incl. 14
		* Subassemblies

Ref. No.	Part No.	Name of Part
37	204247	Screw
38	204248	Washer
48	204249	Tension Spring
49	204250	Screw
52	204251	Lock Washer
53	204252	Chain
54	204253	Driven Sprocket
55	204254	Screw
56	204255	Lock Washer
57	204256	Screw
58	204257	Washer
59	204258	Washer
60	204259	Bearing
61	204260	Gear & Sprocket
65	204261	Intermediate Gear
66	201655	Intermediate Plate Assembly, Incl.60
74	204262	Needle Bearing
75	204263	Seal
76	204264	Bearing
80	204265	Pin
81	204266	Washer
83	204267	Nut,T2
84	204268	Set-Screw, T2
85	204269	Retaining Ring, T2
	204270	14 Tooth Bi-metal blade
	204271	18 Tooth Bi-metal blade
	204272	24 Tooth Bi-metal blade
86	204204	Warning Label
87	204203	Safety Instruction Label

BANDSAW BACKHEAD & HOUSING ASSEMBLIES

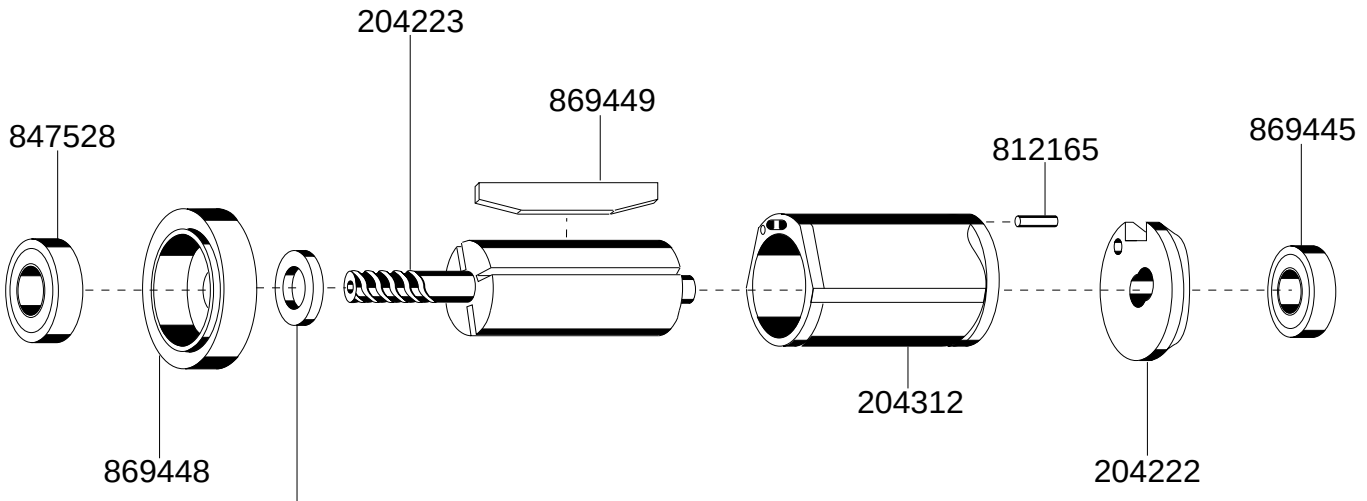


PARTS LIST BANDSAW BACKHEAD & HOUSING ASSEMBLIES

Part No.	Name of Part	Qty.	Part No.	Name of Part	Qty.
202105 †	LOCK-OFF PAWL	1	204220	INLET BUSHING	1
203133 †	LOCK-OFF LEVER	1	204221	THROTTLE PIN	1
203519	EXHAUST DEFLECTOR	1	204327	RETAINER PIN	1
203521	THROTTLE VALVE SPRING	1	619164 *	O- RING	1
203522	THROTTLE VALVE	1	624820	CAP SCREW	3
203523	THROTTLE VALVE SEAT	1	842305	WASHER, LOCK	3
203524	THROTTLE VALVE BUSHING	1	844306	O- RING	1
204198 *	SOCKET CAP SCREW	7	844308	O- RING	1
204206 *	HANDLE ADAPTER	1	844309	O- RING	1
204210 *	UPPER HOUSING	1	844311	O- RING	1
204211 *	LOWER HOUSING	1	844312	O- RING	1
204212	BACKHEAD	1	845409†	LOCK-OFF LEVER SPRING PIN	1
204213	GRIP SLEEVE	1	845758 *	ALLEN CAP SCREW	4
204214 *	PRIMARY MUFFLER	1	847272	O-RING	2
204215 *	SECONDARY MUFFLER	1	847808	LOCK-OFF LEVER PIN	1
204216 *	SPACER	1	863598	INLET SCREEN	1
204217 *	WAVY WASHER	2	864271	SNAP RING	1
204218	THROTTLE VALVE SEAL	1	869855 †	LOCK-OFF LEVER SPRING	1
204219	FLOW VALVE	1	869856 †	LOCK-OFF LEVER SPRING PIN	1

The complete Backhead can be purchased as a subassembly using part number: 201656. *Not included in Backhead subassembly. The complete Lock-off lever can be purchased as a subassembly using part number: 201322. †Included in Lock-off lever subassembly.

BANDSAW MOTOR



ROTOR COLLAR	
PART NO.	SIZE
864489	.122"
847525	.124"
864493	.126"
865417	.128"

PARTS LIST BANDSAW MOTOR

*** ONLY ONE ROTOR COLLAR REQUIRED.**

Part No.	Name of Part	Qty.
204222	REAR BEARING PLATE	1
204223	ROTOR	1
204312	CYLINDER (INCLS. 812165)	1
812165	CYLINDER PIN	1
847525	Rotor Collar .124"	*
847528	Front Rotor Bearing	1
864489	Rotor Collar .122"	*
864493	Rotor Collar .126"	*
865417	Rotor Collar .128"	*
869445	REAR BEARING	1
869448	FRONT BEARING PLATE	1
869449	ROTOR BLADE	4

NOTES

COOPER Tools

CooperTools
670 Industrial Drive
Lexington, SC 29072
Phone: (803) 359-1200
Fax: (803) 359-2013
www.cooperindustries.com