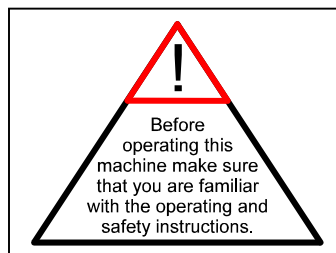


**MODEL 5 1217 0020 "THE CAT"
Air Reciprocating Saw**



OPERATING MANUAL



Technical Specification			
		5 1217 0010	5 1217 0020
Operating pressure	p	6 bar	90 psi
Output	P	1.0 kW	1.3 HP
Free speed (Motor)	n	15.000 rpm	15.000 rpm
Air consumption	V	1.3m ³ /min	46 cfm
Weight		3.95 kg	8.69 lbs
Air connection		R 1/2" female	NPT 1/2"x14 (female)
ID of Hose		13 mm	1/2"
Number of Strokes (free)		1800 1/min.	1800 1/min.
Sawing wood		up to 160 mm	up to 6"
Sawing metal		up to 19 mm	up to 3/4"
Noise level (1 m distane)		79.5 db(A)	79.5 db (A)
Vibration at free speed	*	2.2ms ²	2.2ms ²

* Weighted effective value of acceleration



SAFETY PRECAUTIONS

WARNING: Safety of yourself and of people around you, depends on using care and judgement while operating this saw. Know how to use the saw and make sure that all unnecessary personnel are clear of the work area before using it. Read all operating and maintenance instructions carefully before operating this saw.

IN PARTICULAR, THE FOLLOWING INSTRUCTIONS ARE HIGHLIGHTED!

1. **Keep your work area clean and uncluttered.**
2. **Keep children and unnecessary personnel away from your saw and work area.**
3. **Dress properly**
Do not wear loose clothing or jewellery. They can restrict your movements or be caught in moving parts.
4. **Protect your head and hair, eyes and ears, hands and feet.**
 - **Wear a hard hat, protectors and safety glasses.**
 - **Wear non-slip gloves to protect your hands.**
 - **Wear safety boots to protect feet and legs.**
5. **Always disconnect air hose before attaching a saw blade or working on the saw.**
6. **Be on the alert!**
Fatigue leads to carelessness and accidents. Never operate the saw while you are under the influence of medication, alcohol, or other drugs.
7. **Safe working**
Use a clamp for fastening the workpieces.
Grab the saw with both hands during use.
Do not use the saw unless your body and weight are firmly balanced and secure.

8. Avoid unintended starting

Never carry the saw with the motor running! Do not carry the saw with the fingers on or nearby the valve lever, to avoid an unintended starting. (The best is to disconnect the air hose for transporting the saw).

9. Use the right saw

Do not use a light saw for a heavy work.

Only use the saw for a work for the purpose for which it was intended (e.g. do not use a circular saw for cutting wooden blocks, trees or beams).

10. Storing

When not in use, keep saw in a dry place, either locked up or high up, out of reach of children.

<p>These safety precautions are given for your safety. Review them carefully before operating the saw and before performing maintenance or repairs.</p>
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ADDITIONAL SAFETY RULES

- 1. KEEP HANDS AWAY** from cutting area.
- 2. ALWAYS USE** sharp saw blades.
- 3. STAY CLEAR** of end pieces that may fall after being cut off.
- 4. ALWAYS** use the correct saw blade recommended for the material being cut.
- 5. DO NOT OPERATE** the saw with support shoe removed.
- 5. SOME WOOD CONTAINS PRESERVATIVES WHICH CAN BE TOXIC.** Take extra care to prevent inhalation and skin contact. Request, and follow, any safety information available from your material supplier.
- 6. DO NOT ATTEMPT** to plunge cut metal.

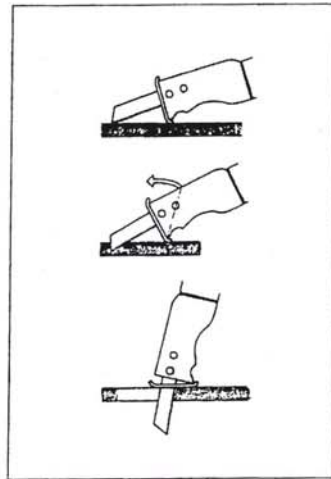


Fig.4

INSTALLING THE SAW BLADE

Loosen clamp screw (item 2) on blade thrust piece (item 3) so that the saw blade can be inserted over the centering pin (item 4). Saw blade must be positioned between the two arms of the U-shaped blade thrust piece. Saw blade must be positioned in the recess in the base of the blade thrust piece (Figure 3). Secure the saw blade **tightly** with clamp screw (item 2), otherwise the centering pin may become damaged or could shear. The centering pin is not intended to hold the saw blade. This function is performed by clamping action of clamp screw (item 2). If this cannot be properly tightened, because the screw socket or socket wrench is worn, the centering pin will shear off. For this reason, replace the clamp screw (item 2) and the socket wrench well before wear becomes excessive.

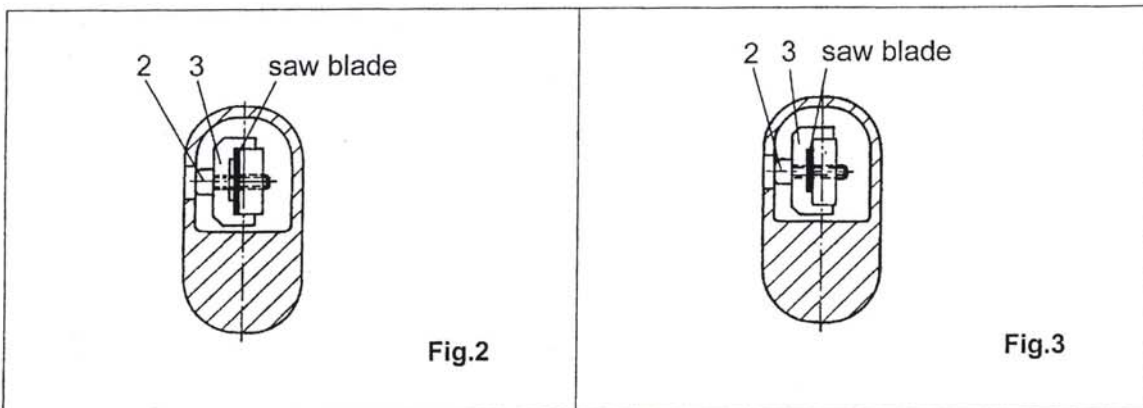


Fig.2

Fig.3

DO NOT lubricate the blade clamp

SAWING METAL

When cutting angle iron, H-beam, I-beam, tubes, pipes etc., start the cut on the surface where the greatest number of teeth will contact the work. To make a pocket cut, drill a starting hole first. To extend blade life, cutting oil can be applied to the work surface along the line of the cut.

SAWING FREE-HAND

For straight or curved cutting, place the support shoe (item 15) on the workpiece and start the saw. Use only sharp and faultless blades. Take care to cut at a uniform feeding speed. This will reduce the risk of accidents and wear on saw and blade. Always keep the connecting line (air hose) towards the rear of the saw.

KEEP TOOL CLEAN

Periodically blow out all air passages with dry compressed air. Remove build up of grime resulting from working green or sappy wood. All plastic parts should be cleaned with soft damp cloth. **NEVER** use solvents to clean plastic parts. They could possibly dissolve or otherwise damage the material.

CAUTION: Wear safety glasses while using compressed air.

The Gearbox runs in a sealed grease housing and therefore does not need any lubrication.

SAW BLADES FOR SABRE SAW

Type: 5 1217 0010 / 5 1217 0020

Length mm	Tooth pitch mm	Application and Materials	Quantity/ea. Part Number	Part Number
280	2.5	Wood with nails, Non-ferrous metal, Plastic	2	9 2505 0020
280	4.0	Wood, Plastic for fast rough cuts	5	9 2505 0040
110	0.7	Mild steel, Non-ferrous metal, Alu up to 1.5mm	5	9 2505 0060
150	1.2	Mild steel, Non-ferrous metal, Alu up to 3.0mm	5	9 2505 0080
150	2.5	Mild steel, Non-ferrous metal, Alu up to 5 mm	5	9 2505 0100

MAINTENANCE AND ASSEMBLY INSTRUCTIONS

Our machines are designed for an operating pressure of 4 – 6 bar (60 – 90 psi).

Service life and performance of the machines are decisively determined by:

a) THE AIR PURITY

b) THE LUBRICATION CONDITIONS AND MAINTENANCE

- a)** Blow the air hose clear before connecting it to the machine. Install dirt and water separator upstream of the machine, if it is not possible to prevent the formation of rust and water condensation in the air distribution lines.
- b)** Always use acid- and resin-free SAE 5 W – SAE10 oil. Thick flowing oil will clog the vanes and affect the start-up and performance of the machine. Only proper maintenance can ensure constant performance, reduction in wear and thus, a decrease in operating costs and an increase in service life. We therefore highly recommend to install a service unit and line oiler upstream of the machine. Observe the comments in the information sheet

„MAINTENANCE OF PNEUMATIC TOOLS“

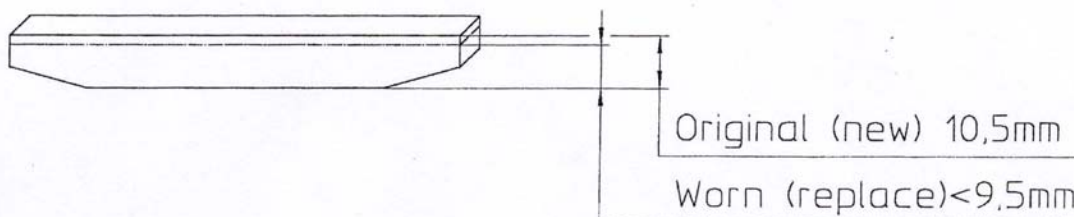
In winter, or if the compressed air is very moist, an antifreeze lubricant, e.g.

„BP Energol AX10“, „Kilfrost“ or „Kompranol N 74“ should be used.

Replace wear parts – in particular the vanes – when necessary.

Vaness are considered worn if their width is less and 9.5mm.

Vane 5 1216 1050



Changing the Vanes

To change the main wear parts > the vanes < proceed as follows:

Disconnect air hose from handle. After loosening screws (item 27) of gearbox take off motor with handle. Remove pinion (item 20) from rotor journal. Screw out motor cover (item 17). Draw out rotor (item 10) with end plate (item 12) and vanes (item 11). Tapping with a rubber mallet onto edge of the motor housing (item 1) is helpful. Doing that also cylinder bushing (item 7) with rear end plate (item 5) can be drawn out.

CAUTION! Do not cant / Never use force!

Change vanes (item 11), clean rotor slots, check surfaces and smooth them if necessary. Push cylinder bushing (item 7) into housing. Take care for correct position. Put in spacers (item 6) again, looking for that the inner chamfer as well as spacer (item 15) point to the rotor. Insert rotor (item 10) with the new vanes (item 11) and spacer (item 15). Install end plate (item 12) with bearing. Put in O-Ring (Item 16) and fasten motor cover with screws. Now rotor has to be turned easily. If not, light tapping with a rubber mallet straight or lateral on motor housing is helpful to put the rotor in free-wheel position. Thereupon mount the pinion (item 20) and screw on gearbox. Connect air hose and perform functional gauging.

DISASSEMBLY AND REASSEMBLY

Disassembly and reassembly should only be performed with assistance of the exploded views and sectional drawings.

Disassembly

GEARBOX

Remove covering hood (item 1). Loosen clamp screws (item 2) and remove gearbox casing 2 (item 9). Pull out of gearbox casing 1 (item 28) inner parts such as roller guide (item 120) with bearings, roller bracket (item 124) with bearings, bevel gear (item 24), axial needle bearing (item 25) and axial washer (item 26). Remove support shoe (item 15) from gearbox casing 2 (item 9). Undo screws (item 6) and take out gate (item 7) and gasket (item 8). Screw out spring pressure piece (item 14), pull out connecting rod (item 5), remove pin (item 10), needle bearing (item 11) and slide block (item 17).

MOTOR

Undo screws (item 31) and draw off complete handle. Screw out motor cover (item 17) and take out O-ring (item 16). Knock out inner motor parts. By tapping with a rubber mallet on end plate (item 3) cylinder bushing (item 7) can be removed. Draw off end plate (item 3) with bearing (item 4) and spacer (item 6) from rotor. Separate pinion (item 20) from rotor and remove end plate (item 12) with bearing from rotor. Pull muffler (item 2) out of motor housing (item 1).

HANDLE

Screw out nipple (item 29) with reducing nipple. Take out compression spring (item 28), ball (item 27), pin (item 25) and sealing ring (item 26). Knock out double-notched pin (item 24) and remove valve trigger (item 23). Replace bushing (item.32), guide sleeve (item 33), compression spring (item 34) and lock bolt (item 35) only when necessary. Bushing (item 32) and guide sleeve (item 33) are glued in and will loosen only after heating.

Reassembly

Reassembly is performed essentially the same as disassembly, but in reverse order.

Handle

Control function after assembly. Look out for leaks and correct pin guide on the valve trigger. Check the locking bolt.

Motor

If bearings (items 4 and 13) in the end plates (items 3 and 12) are replaced, motor has to be fitted in new. For that new spacers (items 6 and 15) are used. Press bearings in the end plates backlash-free in direction to snap ring in order to find out dimension of spacer. The end play between rotor and end plates should be approx. 0.04 mm per side.

Make functional gauging of motor with handle by checking free speed (approx. 15,000 rpm at an operating pressure of 90 spi).

Gearbox

Build-in connecting rod (item 5) in correct position. Check the complete assembled bevel gear (item 24) with bearings and bolts for easy running. Attach roller bracket (item 124) completely. Test roller guide for easy movement. Screw together gearbox casing 1 and gearbox casing 2 and pull over covering hood. Screw together components „Motor with Handle “ and „Gearbox“

Fill the gearbox with grease, e.g. **Calypsol-D8024** (approx. 80 g)

After completion of reassembly make following functional gauging:

Cutting capacity

Power

Start reaction

Use only **ORIGINAL-SPARE PARTS** for repairs!

TROUBLESHOOTING

Trouble	Cause	Solution
Sabre Saw comes to a stop during cutting	<ul style="list-style-type: none"> • feeding pressure too high • blunt saw blade • unsuitable saw blade • insufficient operating air pressure 	<ul style="list-style-type: none"> • reduce feeding pressure • replace saw blade (new) • replace saw blade (best suited blade for the cut) • increase operating air pressure to 90 psi
Sabre saw does not start	<ul style="list-style-type: none"> • not connected to compressed air • Motor blocked 	<ul style="list-style-type: none"> • open stopcock for compressed air • dismantle motor and clear faults – replace defective parts
Centering pin shears off, saw blade cannot be adequately clamped	<ul style="list-style-type: none"> • Clamp screw worn / socket wrench worn 	<ul style="list-style-type: none"> • replace clamp screw / socket wrench
Sabre saw runs too slow during cutting	<ul style="list-style-type: none"> • Air outlet clogged • Rotor touches the end plate • Compressed air is not lubricated – Dry run 	<ul style="list-style-type: none"> • clean the screwed-in sintermetal mufflers • dismantle motor – replace faulty parts – fit in motor again • fill the line oiler with oil. Check oiler setting (approx. 2-5 drops per cfm air consumption)

MAINTENANCE OF PNEUMATIC TOOLS

Only proper maintenance can ensure constant performance, reduction in wear and thus, a decrease in operating costs and an increase in service life.

Our pneumatic tools are equipped for an operating pressure of 6 bar. A regulator setting for an operating pressure of 4 bar is possible as well as expedient for grinding machines with a built-in regulator, so as to take full advantage of the speed prescribed for the corresponding grinding wheels.

Pneumatic tools should not run empty, because this results in heat and higher wear. The compressed air should be clean and dry. This is guaranteed by a proper pneumatic system. Blow through the pneumatic hose before connecting it. For the economical use of pneumatic tools, the prescribed air quantities are necessary, i.e., the line, armatures and hoses must have the required cross sections so that the flow pressure remains constant. Proper lubrication is a must; for this reason, our pneumatic tools usually have built-in oilers, which are located between the inlet valve and the motor, and which function in any position. In smaller and lighter hand tools, these oilers must often be left out, because the machines would then be too heavy and not easy to manage. In such cases, lubrication must be carried out by service units or by manual hose oilers. We recommend service units for permanently installed workplaces

(see accessories list). However, where longer hose lines are necessary, line oilers built into the hose lines are more effective. The distance between the tool and oiler should not be more than 5 m.

Most of pneumatic tools have located at the connection a lined-up screen, which is to be regularly checked and cleaned.

After ending a working task, the machines are to be flushed with a thin oil, or protected some other way against corrosion.

Visible grease nipples are provided for regular lubrication of the gears with a grease gun. Note the following for grease lubrication: Every 60 hours of operation check striking mechanism, friction bearings and antifriction bearings; if necessary, grease them. Every 300 hours of operation grease the gears and antifriction bearings anew. In the case of impact wrenches, use a grease gun to grease the anvil guide before beginning daily work or every 6 to 8 hours. All inner parts must be lubricated before storing for longer periods of time in order to prevent rusting. It is recommend to check the vanes and bearings at regular intervals. Store pneumatic tools in dry rooms only.

Lubricating oils to be used:
Generally SAE 5 W to SAE 10

For gearless impact wrenches and small grinders, only SAE 5 W

For damp compressed air, oils are to be used that take up water (without losing the lubricating effect) and that contain anticorrosive additives. At lower temperatures (especially for work outside) it may be necessary to use an antifreeze lubricant (e.g., Kilfrost, BP Energol AX 10, Kompranol N 74).

For saw-chain lubrication on chain saws:

Machine oil **with adhesive additive**, viscosity c ST 49-55' (6.5-7,5 E) / 50° C

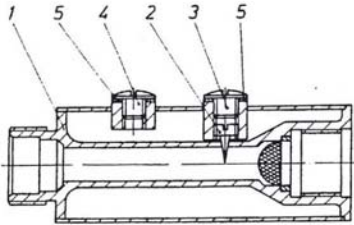
Greases (free of resins and acids)

Multi-purpose greases for antifriction and friction bearings and gears

Special greases for high-speed miter gears

Designation in accordance with DIN 51502	KL 2 K	G 00 h
Consistency class (DIN 51818)	2	00
Saponification type	lithium	sodium
Dripping point	185° C	145° C
Worked penetration	265 to 295	400 to 410
Temperature range	-25° C to 125° C	-25° C to + 100° C

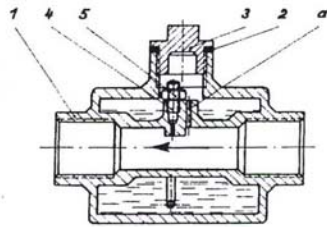
OILER TYPES USED ON OR WITH OUR TOOLS



Oiler to mount on the machine or connect in the hose line

Setting the oiler: The adjustment screw (Item 2) is visible after removing the screw plug (Item 3). The oil supply is decreased by tightening the screw, and by loosening the screw, more oil gets into the machine. In most cases it is sufficient to tighten or loosen the screw by 1/4 or 1/2 of a turn. When plugged, clean borehole (dia. 2 mm) with wire.

Correct setting: When under pressure and with the filler screw (Item 4) open, the oil must bubble slightly. The filling lasts for approx. 8 operating hours.

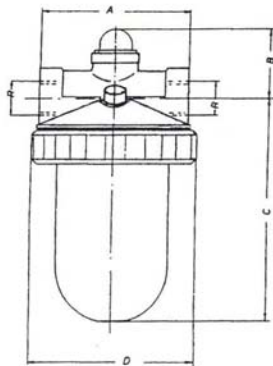


Line oiler

For stationary pneumatic machines and motors, the lubrication is carried out by lined-up oilers for horizontal or vertical installation.

Setting of oilers: Shut off air supply. Open plug (Item 3). Loosen visible lock nut (Item 5) with a socket wrench. Using a screw driver turn back the tightened screw plug (Item 4) by 1/4 to 1/2 of a turn and then lock again. No oil is to get into the borehole "a" when filling. Close plug (Item 3) and open the air supply.

Correct setting: A piece of paper held for a short time in front of the outlet must be coated with oil without drops forming.



Transparent oiler

For installing in permanently equipped workplaces.

(especially for type using service units – see accessories list)

The transparent supply containers allow for good checking as well as for good setting possibility by means of a screw driver via a set screw with visible dripping. (The set screw is above the lateral thread connection – turning to the right for less oil; turning to the left for more oil). The setting (2 to 5 drops per m³/min air consumption) is to be carried out when air is flowing through, i.e., when the machine is running.