

OPERATING MANUAL



5 6031

0010

Stainless Steel Pneumatic Band Saw



5 6047 0010

Stainless Steel Electric Band Saw



Manufactured by: SPITZNAS GmbH, POSTFACH 11 02 09, 42530 VELBERT, GERMANY

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Chapter 1: Safety Instructions

Make sure that you are familiar with the Safety Instructions before operating the SPITZNAS Band Saw

Chapter 2: Technical Data of the Pneumatic Band Saw and Electric Band Saw

Chapter 3: Scope of Delivery and Accessories

Chapter 4: Use and Cutting Hints of the Band Saw

Chapter 5: Operating Instructions and Maintenance

Chapter 6: Disassembly and Assembly, Spare Parts lists ,
Sectional Drawings of the components.

Safety Instructions

WARNING!

**Risk of serious personal injury or death.
Read and follow instructions for proper use of this product.**

Because of the harsh environment to which Band Saws are exposed, it is necessary that you carefully follow all instructions accompanying your saw and its cutting attachments. In particular, the following instructions are highlighted.

1. Plan ahead - lay the work out before starting. Always work in a steady manner. Fatigue leads to carelessness and accidents. Never operate your tool while you are under the influence of medication, alcohol, or other drugs.
2. Keep your work area clean and uncluttered and keep children and unnecessary personnel away from your saw and work area.
3. Wear proper clothing. Clothing which is too tight or too loose is not suitable; it can restrict your movements or be caught up by the saw band.
4. Protect your head and hair, eyes and ears, hands, legs and feet.
 - **Wear a hard hat, ear protectors and safety glasses**
 - **Wear non-slip gloves to protect your hands**
 - **Wear safety boots to protect feet and legs**
5. Always disconnect power hose before attaching a saw band or working on the saw. To disconnect Electric Motor unplug the cord from the power outlet. To disconnect Air Motor shut main air hose valve. Open air valve to decompress hose before disconnecting it.
6. Do not operate the saw unless your body and weight are firmly balanced and secure. Never use the saw while leaning from a ladder, scaffold or other structure. Grab the saw with both hands during use. Keep hands and other body parts away from cutting area. Exercise extreme care to prevent hands from contacting the saw band.
7. No obstructions. Be certain the object being cut does not contain electrical wires. Use clamps or make sure the material to be cut is firmly held to prevent movement.
8. Slurry is very slick. Remove or control to prevent yourself, or others, slipping while cutting.
9. Never carry the band saw with the motor running! Do not carry the saw with the finger on or nearby the trigger switch or valve lever.

10. Be alert for pieces which might fall down.
(Solid steel of 4" dia. and 12" length weighs about 40 lbs !)
11. Avoid sparks in hazardous environment - created by the saw band.
12. Use saw only with secured closed cover.
13. Do not operate saw with a damaged, modified, or broken cover.

ELECTRICAL SAFETY

1. Grounded tools must be plugged into an outlet properly installed and grounded in accordance with all codes and ordinances. Never remove the grounding prong or modify the plug in any way. Do not use any adaptor plugs. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded. If the tools should electrically malfunction or breakdown, grounding provides a low resistance path to carry electricity away from the user.
2. Avoid body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is grounded.
3. Don't expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.
4. Do not abuse the cord. Never use the cord to carry the tools or pull the plug from an outlet. Keep cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately. Damaged cords increase the risk of electric shock.
5. When operating a power tool outside, use an outdoor extension cord marked W-A or W. These cords are rated for outdoor use and reduce the risk of electric shock.

Technical Data

AIR BAND SAW NO.	5 6031 0010/20
Housing	Stainless Steel
Cutting Capacity, dia. max.	7-1/4"
Cutting Capacity, rectangular max.	7-1/4" x 7-1/2"
Saw Band Size	66" x 5/8" x 0.025"
Overall Length	28 3/4 "
Height including Motor	11 1/2 "
Width	11 1/4 "
Weight	28.7 LBS
Air Connection	R 1/2" female
ID of Hose (minimum)	1/2 "
Standard Air Pressure	60 to 90 PSI
Air Consumption (at P =1.0 kW)	23 CFM (at 60 PSI) 42 CFM (at 90 PSI)
Motor Output	1.3 HP
Noise Level (Free Speed) (measured in a distance of 1m)	83,8 dB(A) (at 60 PSI) 87,3 dB(A) (at 90 PSI)

Electric Band Saw No.	5 6047 0010
Motor	120 VAC *, 50-60 HZ, 6 AMP
Free Surface Speed	Variable 100-265 Ft/Min

* This motor is rated A.C. only. Do not use D.C. current otherwise serious damage will occur.

Scope of Delivery / Accessories

Standard Equipment - Electric Band Saw		
	Description	Part No.
1.	Band Saw Head 7-1/4" Dia.	5 6031 8000
2.	Band Saw Motor 6 AMPS	5 6047 7724
3	Saw Blade 10-14 TPI	9 2506 0230

Standard Equipment - Air Band Saw		
	Description	Part No.
1.	Band Saw Head 7-1/4" dia.	5 6031 8000
2.	Band Saw Motor 1.3 HP	5 6037 0020
3.	Saw Blade 10-14 TPI	9 2506 0230

Additional Saw Blades		
	Description	Part No.
1.	Saw Blade 8 TPI	9 2506 0200
2.	Saw Blade 14 TPI	9 2506 0220
3.	Saw Blade 10-14 TPI	9 2506 0230
4.	Saw Blade 8-12 TPI	9 2506 0240

Accessories		
	Description	Part No.
1.	Handle	5 6032 6010
2.	Strap	9 5102 6000
3	Clamp on Vise	5 6031 9400

Use and Cutting Hints

- Plan the cut.
- Know the material to be cut. If necessary, slow down surface speed of saw band by reducing the air pressure.
- Verify material to be cut is firmly held to prevent movement.
- Hold the saw with the work stop contacting the work and saw band teeth clear of the work.
- To start the air motor press valve lever with fingers.

To start the electric motor squeeze trigger switch.

Lower saw onto work. Allow weight of saw to control cutting pressure. Additional pressure will slow down speed of the saw band.

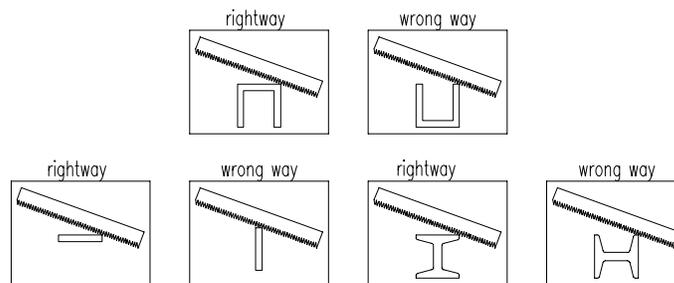
Hold saw straight in the cut. Any twisting or cocking of the band results in shorter saw band life.

If the saw band binds or jams in the cut shut off the motor and disconnect the air supply. Free the saw band carefully.

CAUTION: Stay clear of end pieces that may fall down after being cut off.

At completion of cut **do not** allow saw to fall against your body, the work or any person nearby.

- When finishing a cut, back off on feed force to prevent stalling the band



The proper cutting position for various shapes

- To stop the air motor release the valve lever.
- To stop the electric motor release the trigger.
- Saw band must be in motion before re-entering a cut.

To disconnect air hose shut main air hose valve.
Open air valve to decompress hose before disconnecting it.

To disconnect the electric motor unplug the cord from the power outlet.

Troubleshooting

Problem:

Motor runs properly but cut is not sufficient.

Probable Cause

- Saw band is not sharp
⇒ Replace saw band
- Teeth point to the wrong direction
⇒ Remove saw band, change teeth direction, and install it again.
- Saw band is not tightened
⇒ Tighten saw band
- Saw band type (Material, TPI) is wrong for cutting the material
⇒ Exchange saw band
- Cutting speed is wrong
⇒ Increase or decrease air flow pressure
- Saw band guide bearing or pulleys were not maintained sufficiently after cutting in wet surrounding
⇒ Replace damaged parts

Problem:

Vibration

Probable Cause:

- Material to be cut is not firmly held
⇒ Clamp the material near the cutting location
- Fixed TPI instead of variable
⇒ Exchange saw band

Problem:

Motor does not start

Probable Cause:

- Low air pressure or volume
⇒ Check compressor and air hose valves as well as air inlet screen for pollution
- Iced exhaust
⇒ Wait until ice-free, use anti-freeze lubricant
- Vanes sticky
⇒ Put air tool oil into air inlet and blow motor clear.
Repeat if necessary. Refer to Maintenance Instructions

Problem:

Electric Motor does not start

Probable Cause:

- Check power supply for blown fuses or open circuit breakers in the line.
- Check that switch is in “ON” position
- Check that power cord is plugged into outlet.
- Check that prongs on the cord plug are making good contact in the outlet.

Changing Saw Bands

Observe the following safety instructions before changing saw bands.

Electric Motor:

1. Disconnect plug from power outlet

Pneumatic Motor:

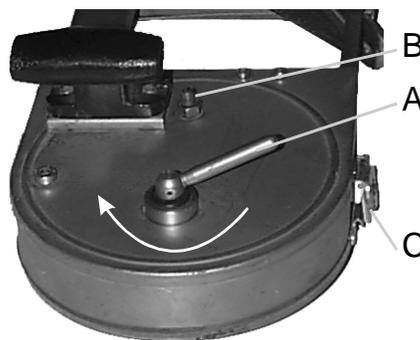
1. Disconnect air hose
Open air valve to decompress hose before disconnecting it

2. To remove saw band

Turn adjustment handle (A) clockwise to release tension on the saw band.

After that unlock closures (C) of the coating by turning and open the cover lid.

Remove the saw bands from tire pulleys and then from guide.



3. Before installing a new saw band, clean chips and wax, which may have accumulated on guide and tire pulleys.

4. To install saw band

Before installing the saw band check ease of guide bearings

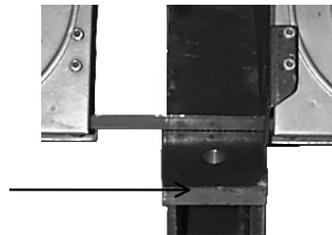
Make sure teeth point in the right direction (see below)

Install saw band in guides and then position on pulleys.

Turn adjustment handle counter-clockwise as far as it will go.

Close cover lid, connect air hose and start and stop saw two or three times to seat saw band on pulleys.

If the saw band fails to track correctly, adjust band tracking by means of adjusting screw (B).



direction of band travel

position of teeth

Selection of Saw Band

Which saw band to use

In general, select a saw band which will allow at least two teeth to be engaged in the material thickness. The thinner or the harder the material, the finer the saw band teeth.

Ask your dealer for the right selection of saw bands.

WARNING:

Exercise extreme care to prevent hand from contacting the saw band

USE OF LUBRICANTS

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

Warning: LIQUID COOLANTS CAN INCREASE THE RISK OF ELECTRICK SHOCK. Use only stick wax to lubricate the blade.

CS Unitec's "Lube Wax" is available as an accessory and is 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: EXCERISE EXTREME CARE TO PREVENT HANDS FROM CONTACTING THE BLADE.

After prolong 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 power source adn wipe the wax from the pulleys.

General Operating Instructions

AIR BAND SAW

1) Air Supply

Compressor must be able to supply the saw with at least 1,00 m³/min (35 cfm) clean and dry air at 7 bar (100 PSI).

Install a service unit, if necessary, but in any case use an oiler.

Minimum air hose diameter 13 mm (1/2").

Blow air hose clear and connect it to the cleaned saw air inlet (Check screen).

2) Lubricator

Install service units or line oiler!

Check and if necessary fill with resin- and acid-free SAE 5 W to SAE 10 W oil.

In winter or when using very moist air, use antifreeze lubricant, such as "Kilfrost", "BP Energol AX 10" or "Kompranol N 74".

3) **Remember safety instructions and cutting hints!**

ELECTRIC BAND SAW

- 1) Model 5 6047 0010 is designed for A.C. current only. Refer to the specification plate on your tool to proper voltage and current rating.

CAUTION: Do not operate your tool on a current on which the voltage is not within correct limits. Do not operate tools rated A.C. on only D.C. current. To do so may seriously damage the tool.

EXTENSION CORD SELECTION

If an extension cord is used, make sure the conductor size is large enough to prevent excessive voltage drop which will cause loss of power and possible motor damage. A table of recommended extension cord sizes will be found in this section. This table is based on limiting line voltage drop to 5 volts (10 volts for 230 volts) at 150% of rated amperes.

If an extension cord is to be used outdoors it must be marked with the suffix W-A or W following the cord type designation. For example – SJTW-A to indicate it is acceptable for outdoor use.

RECOMMENDED EXTENSION CORD SIZES FOR USE WITH PORTABLE ELECTRIC BAND SAW

		Length of Cord in Feet								
		25 Ft.	50 Ft.	100 Ft.	150 Ft.	200 Ft.	250 Ft.	300 Ft.	400 Ft.	500 Ft.
115V		50 Ft.	100 Ft.	200 Ft.	300 Ft.	400 Ft.	500 Ft.	600 Ft.	800 Ft.	1000 Ft.
Nameplate Ampere Rating	0-2	18	18	18	16	16	14	14	12	12
	2-3	18	18	16	14	14	12	12	10	10
	3-4	18	18	16	14	12	12	10	10	8
	4-5	18	18	14	12	12	10	10	8	8
	5-6	18	16	14	12	10	10	8	8	6
	6-8	18	16	12	10	10	8	6	6	6
	8-10	18	14	12	10	8	8	6	6	4
	10-12	16	14	10	8	8	6	6	4	4
	12-14	16	12	10	8	6	6	6	4	2
	14-16	16	12	10	8	6	6	4	4	2
	16-18	14	12	8	8	6	4	4	2	2
	18-20	14	12	8	6	6	4	4	2	2

Maintenance

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

AIR BAND SAW

SERVICE LIFE and **PERFORMANCE** of the Air band saw are determined by

a) Degree of air purity

Blow the air hose clear before connecting it to the saw.

Install dirt and water separators upstream of the saw, if it is not possible to prevent the formation of rust and water condensation in the air distribution lines.

b) Lubrication

The motor must be lubricated by a line oiler or service unit.

Fill the lubricator with resin- and acid-free „SAE 5 W“ to „SAE 10 W“ oil.

Heavy oils will cause the vanes to stick, thereby making the motor difficult to start and impairing its performance.

Optimum lubrication significantly prolongs service life. We therefore highly recommend to install service units (combined filters, regulators and lubricators) upstream of the saw.

c) Maintenance

Regularly check and clean the air inlet screen.

Replace wear parts - in particular the motor vanes - when necessary.

Vaness are considered worn if their width is less than 9.7 mm (3/8“)

ELECTRIC BAND SAW:

For your continued safety and electrical protection, brush inspection and replacement on this tool should ONLY be performed by an Authorized CS Unitec Service Station.

At approximately 100 hours of use, take or send your tool to your nearest authorized CS Unitec Service Station to be thoroughly cleaned and inspected. Have worn parts replaced and lubricate with fresh lubricant. Have new brushes installed, and test the tool for performance.

Any loss of power before the above maintenance check may indicate the need for immediate servicing of your tool. **DO NOT CONTINUE TO OPERATE TOOL UNDER THIS CONDITION.** If proper operating voltage is present, return your tool to the service station for immediate service.

Keep Tool Clean

Periodically blow out all air passages with compressed air.

Caution: Wear safety glasses while using compressed air.

Remove wax and chip buildup from drive pulleys and blade guides.

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.

After use, clean the saw. Rinse it with light oil or provide alternate corrosion protection after having worked in wet surroundings.

SERVICE AND REPAIRS OF ELECTRIC BAND SAW

All quality tools will eventually require servicing or replacement of parts due to wear from normal use. These operations, including brush inspection and replacement, should ONLY be performed by an AUTHORIZED CS UNITEC SERVICE STATION. We cannot guarantee repairs made or attempted by anyone other than these agencies.

Should you have any questions about your tools, feel free to call us at any time. In any communications, please give all information shown on the nameplate of your tool.

WARNING: Electric repairs should only be attempted by a trained repairman.

DISASSEMBLY AND REASSEMBLY OF THE AIR BAND SAW

Refer to the sectional drawing and to the spare parts list when disassembling and reassembling.

Remove motor with handle from band saw head after undoing screws (77).

Disassembly of Motor (for changing the vanes)

Unlock locking ring (18) and take out front motor component consisting of thrust collar (16), Belleville spring (17) and shaft seal ring (20) with ring (19).

Touch the motor housing softly to a wooden surface to pull out inner motor parts.

Pull off end plate (12) with bearing (13), snap ring (14) and spacer (15) from rotor (10) and take out locking pin (8). Disassemble snap ring (14) and take out bearing (13).

Remove cylinder bushing (6) and vanes (11). Pull off end plate (2) with bearing (3) and spacer (5) from rear rotor seat (10). Unlock snap ring (4) and disassemble bearing (3).

Remove sound absorber (9).

Screw off silencer (22).

Reassembly of Motor

Reassembly is performed essentially the same as disassembly, but in reverse order. Inspect all parts for wear and damage. Replace any worn or damaged parts.

Vanes (11), should be exchanged.

Vanes are considered worn if their width is less than 9.7 mm (3/8")

Disassembly of Handle

Untighten screw plug (37). Remove spring (35), ball (34), seal (32) and cylindrical pin (33).

Hit out double notched pin (31) and remove Pusher (30).

Take out screw plug (40), spring (39) and locking bolt (38).

Reassembly of Handle

Reassembly is performed in reverse order.

DISASSEMBLY AND REASSEMBLY **OF THE AIR BAND SAW**

Disassembly of Band Saw Head

Undo screws (12 and 42) and detach pulleys (7 and 40) with tire pulleys.

After undoing screw (47), detach washer (48), needle bearing (43) and washers (44 and 45). Unscrew hexagonal nut (72), and remove washer (73). Undo hexagonal nut (71) and screw out threaded pin (70). Loosen screw (32) and pull out washer (31). Pull out tension shaft (27) and knob (28). Remove pin (29) and separate knob (28) from tension shaft (27). After loosening hexagonal nuts (75) pull out washers (73) remove yoke (30) as well as spring (37) and washer (33). Undo screws (59 and 69) and remove stop (74) and guides (50 and 60).

Reassembly of Band Saw Head

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

Control function by moving pulleys (7 and 40) before connecting the motor.

For disassembly of the gearbox undo screws (12) and remove pulley (7).

Disassembly of the Gearbox

Pull off planet carrier (9). Take out all gearbox stages and remove planetary wheels (5, 8, 11) and needle bearings (4, 7, 0). Take out bearing (14). Remove snap rings (15) and pull out bearing ring (12) with second bearing (14). Separate pinion (20, 21) from planet carrier (3, 6).

Reassembly of Gearbox

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

Add sufficient grease to gearbox.

Spare parts and Service

Only ORIGINAL SPITZNAS SPARE PARTS have to be used.

SPITZNAS takes out any liability for damages which have occurred by use of not approved parts or accessories.

Intended purpose

Safe operation is only ensured, when the band saw will be used solely for that purpose defined in the Operating Instructions.

General

For proper use read and follow Operating Instructions of the band saw 5 6031 0010 in any case.