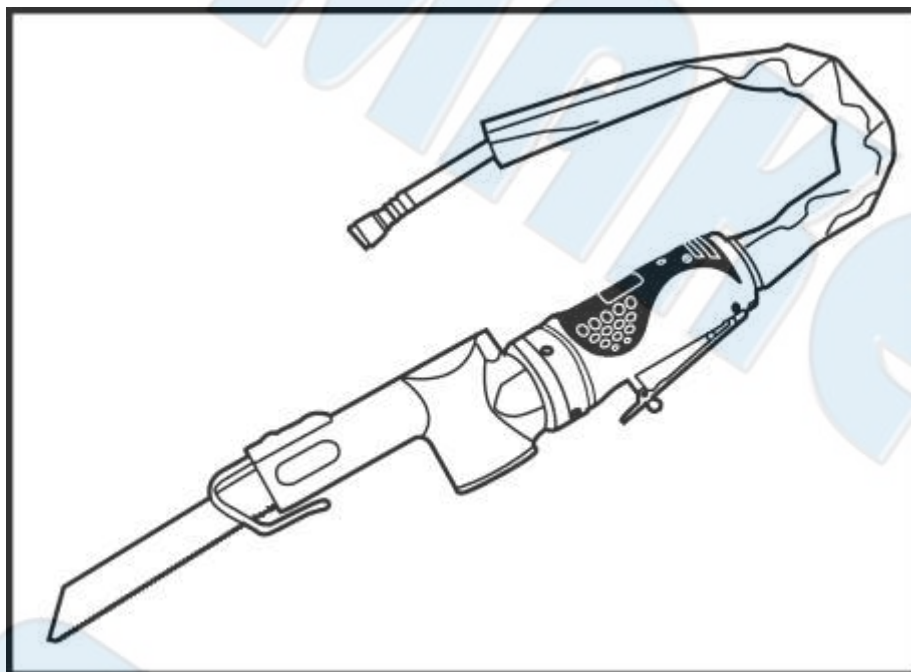




SUMAKE *PNEUMATIC TOOLS*



Air Geared Saw (Rear Exhaust) ST-BW300H

Specification:

Blow Per Min	7,000 b.p.m.
Cutting Capacity	5.3mm Steel Thickness 5.8mm Alum. Thickness
Overall Length	12-1/5" (310 mm)
Air Consumption	8.5 CFM (240 L/min)
Air Inlet (PT)	1/4" (6.35 mm)
Air Hose (I.D.)	3/8" (10 mm)
Air Pressure	90 psi (6.3 bar)
Net Weight	3.1 lbs (1.4 kg)

Noise and Vibration:

Vibration EN ISO 28927-8	Noise EN ISO 15744	Remark
Load: 4.855 m/s ² Uncertainty K= 1.5 m/s ²	Sound Pressure Level load: 86 dB(A)	Please always wear ear protector at environment noise level > 80 dB(A) due to risk of impaired hearing!
	Sound power level load: 97 dB(A)	
	Uncertainty K= 3dB	



EC DECLARATION OF CONFORMITY

We: **SUMAKE INDUSTRIAL CO., LTD.**

4F, No. 351, Yangguang St., Neihu District, Taipei City, Taiwan

declare in sole responsibility that the equipment

Equipment : **AIR GEARED SAW (REAR EXHAUST)**

Model/ Serial No. : **ST-BW300H**

to which this declaration applies, complies with these normative documents:

- Machinery Directive: 2006/42/EC

and conforms to the following EN standard,

- EN ISO 12100: 2010
- EN ISO 11148-12:2012

Name and Signature/Position



Mike Su - Managing Director

Date and Place

2022/12/1

Taipei, Taiwan

ST-BW300H-D-2305B-D5F

Application:

The tool is ideal for work in confined areas, for de-burring, filing and cutting on metal, wood, plastic, fiberglass and composite materials; which is excellent for body shop repair, muffler and exhaust work, and sun roof installations.

- Tool accessory may continue to function briefly after throttle is released.
- Use accessories recommended by SUMAKE.
- Do not use dull or damaged blades.
- Do not force the tool. It will perform better when used at the speed for which it was designed.
- Always use the proper blade.
- Prevent exposure and breathing of harmful dust and particles created by tool, work in a well-ventilated area and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

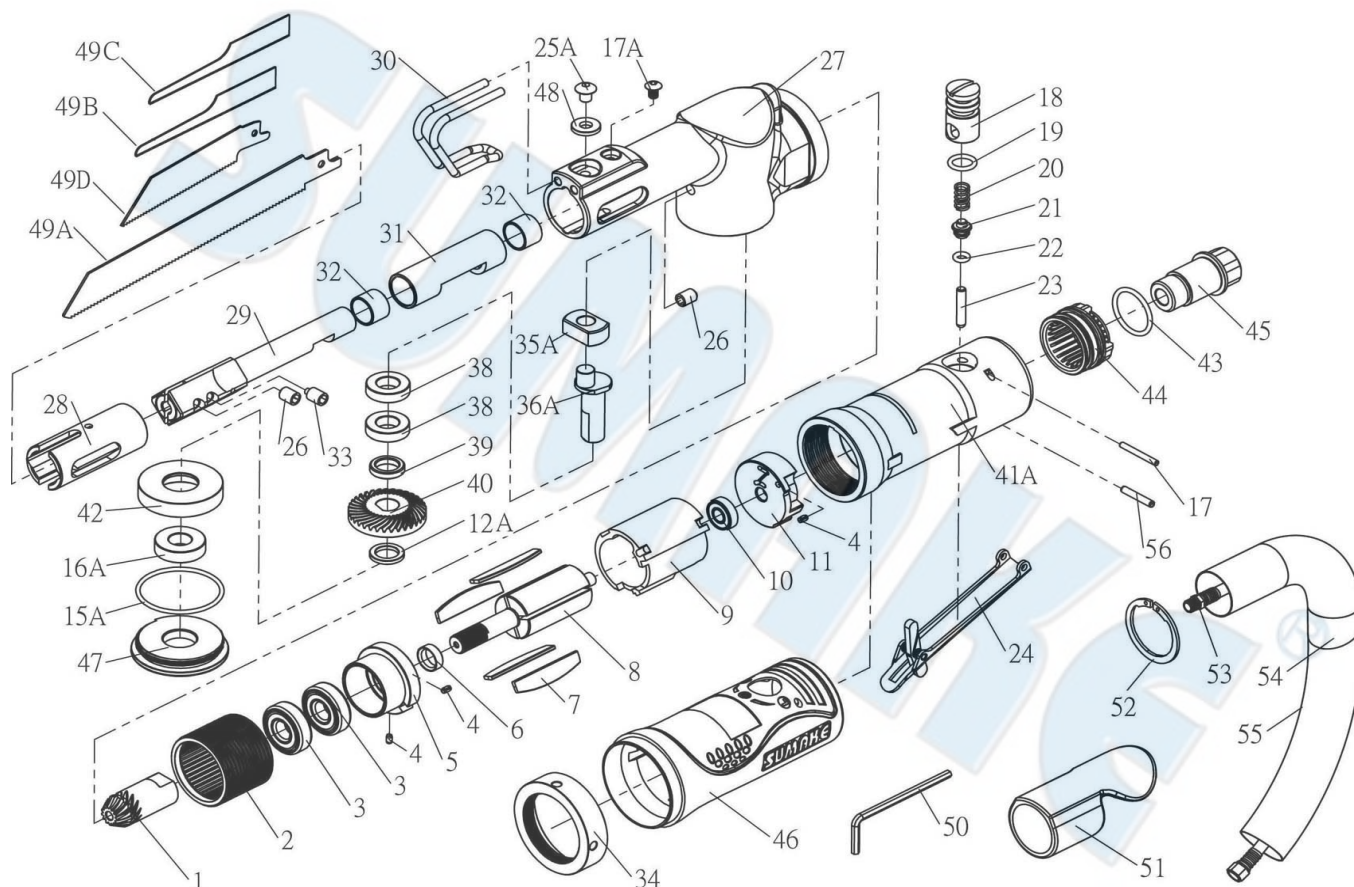


Common Troubleshooting:

Event	Appearance	Possible Cause	Solution
Not operating	Air is coming from the exhaust valve	Rusty cylinder or clogged with objects	Disassemble and repair
		Piston is broken	Disassemble and repair
	No air coming from the exhaust valve	Regulator is set at OFF	Adjust regulator
		No air flow	Check air system and connections
Low efficiency	Low revolution rate	Not enough air pressure	Check air pressure
	Piston running abnormal or unusual noises occur	Not enough lubrication, cylinder, cylinder head, piston damaged	Lubricate or replace parts
Piston keeps running	Trigger does not bounce back or does not bounce back correctly	Trigger set has other objects stuck on it or the spring is broken, deformed or rusty	Disassemble and repair
	Trigger function normally	Trigger O-ring worn out or valve set damaged or broken	Disassemble, repair and replace parts

ST-BW300H

AIR GEARED SAW (REAR EXHAUST)



PARTS LIST

No.	Parts No.	Description	Q'ty
1	BW300-01	Pinion	1
2	BW300-02	Lock Ring	1
3	BW300-03	Bearing (609ZZ)	2
4	BW300-04	Spring Pin (Φ2.5x4)	3
5	BW300-05	Front End Plate	1
6	BW300-06	Spacer	1
7	BW300-07	Rotor Blade	4
8	BW300-08	Rotor	1
9	BW300-09	Cylinder	1
10	BW300-10	Ball Bearing (696ZZ)	1
11	BW300-11	Rear End Plate	1
12A	BW300-12A	Spacer	1
15A	BW300-15A	O-Ring	1
16A	BW300-16A	Ball Bearing	1
17	DG1002L-17	Spring Pin (Φ2.5x20)	1
17A	BW300-17A	Screw	1
18	DG1002L-18	Valve Screw	1
19	DG1002L-19	O-Ring (ID9.8x2.4)	1
20	DG1002L-20	Valve Spring	1
21	DG1002L-21	Throttle Valve	1
22	DG1002L-22	O-Ring (P4)	1
23	DG1002L-23	Valve Shaft	1
24	DG1002L-24	Throttle Lever Assy	1
25A	BW300-25A	Screw	1
26	BW300-26	Set Screw (M6x0.75P)	2
27	BW300-27	Housing	1
28	BW300-28	Chuck Guide	1
29	BW300-29	Spindle	1
30	BW300-30	Work Guide	1

No.	Parts No.	Description	Q'ty
31	BW300-31	Chuck Bush	1
32	BW300-32	Bush	2
33	BW300-33	Set Screw (M6x1P)	1
34	BW300-34	Adjust Ring	1
35A	BW300-35A	Cam	1
36A	BW300-36A	Transmission Shaft	1
38	BW300-38	Ball Bearing	2
39	BW300-39	Spacer	1
40	BW300-40	Gear	1
41A	BW300-41A	Housing	1
42	BW300-42	Bearing Plate	1
43	DG1002L-43	O-Ring (S022.4)	1
44	DG1002L-44	Exhaust Sleeve	1
45	DG1002L-45	Inlet Bushing	1
46	DG1002L-46	Housing Cover	1
47	BW300-47	Cap	1
48	BW300-48	Washer	1
49A	BW300-49A	Saw Blade (6"-14T)	1
49B	BW300-49B	Saw Blade (3-5/8"-24T)	1
49C	BW300-49C	Saw Blade (3-5/8"-32T)	1
49D	BW300-49D	Saw Blade (4"-14T)	1
50	BW300-50	Hex. Wrench 3.0mm	1
51	BW300-51	Heat Insulation Cover	1
52	BW300-52	Stop Ring	1
53	BW300-53	Air Hose Ass'y 1/4"	1
54	BW300-54	Sponge	1
55	BW300-55	Exhaust Hose	1
56	BW300-56	Spring Pin (M3x20)	1



Read all these safety instructions before operating this product and save these instructions.

The tool has been manufactured in conformity with the instruction of EU machine directive. The EU mark will be considered void in the event of inexpert repairs, the use of non-original parts and in case of non-observance of the safety instructions in the user's manual.

Possible direct or indirect consequential damages are not the responsibility of SUMAKE Industrial co., Ltd.

General safety rules:

1. Watch the tool at all times when in use.
2. People under the influence of alcohol or drugs are not allowed to use, repair or maintain the tool.
3. Keep unqualified persons, children, etc. away from the tool.
4. Keep work area clean and with sufficient daylight or artificial lighting. The work area on which the machine is used must be cleaned up. Disorder is a potential cause of accidents.
5. Danger of explosion. Never use oxygen and combustible gas as an air supply for the tool which may be ignited by spark and cause fire or explosion.
6. Never use gasoline or other flammable liquids to clean the tool.
7. Do not use air tools in potentially explosive atmospheres such as in the presence of flammable liquids, cleaning solvents, fluid energy or stored gases.
8. Do not expose air tools to rain. Do not use air tools in damp or wet locations.
9. When a fault or failure is detected, the tool must immediately be disconnected from the air supply and returned for repair.
10. It is not permitted to modify the tool in any way.
11. When not in use, keep tools in a dry place, either locked up or in a high place, out of the reach of children.
12. Do not force small air tools to do the job of a heavy-duty task. Do not use air tool for purpose of which was not intended.
13. Wear suitable ear protection at environment noise level >80dB(A) and safety spectacles when using the tool. Always wear approved safety goggles if work in dusty. This also applies to other persons in the nearby vicinity.
14. Do not wear loose clothing or jewelry. They can be caught in moving parts. Rubber gloves and non-skid foot wear are recommended when working outdoors. Wear protective hair covering to contain long hair.
15. Keep proper footing and balance at all times.
16. Use clamps or a vice to hold work-piece. It is safer than using your hand and free both hands to operate the air tool.
17. When not use, before performing service or changing accessories, please disconnect tool from air compressor.
18. Do not carry plugged in air tool with your finger on the switch trigger. Be sure switch is in the "OFF" position when connecting to air supply.
19. Watch what you are doing. Use common sense, even unsafe situation or unbalanced positions, particularly when you are tired.
20. Air powered tools can vibrate in use. Vibration, repetitive motions or uncomfortable positions may be harmful to your hands or arms. Stop using any tool if discomfort, tingling feeling or pain occurs. Seek medical advice before resuming use.
21. Multiple hazards. Read and understand the safety instructions before installing, operating, repairing, maintaining, changing accessories on, or working near the tool.
22. Failure to do so can result in serious bodily injury.
23. Only qualified and trained operators should install, adjust or use the tool.
24. Do not modify the tool. Modifications may reduce the effectiveness of safety measures and increase the risks to the operator.
25. Do not discard the safety instructions – Give them to the operator.
26. Warnings shall be given against the risk of explosion or fire due to the material being processed;
27. Do not use the tool if it has been damaged
28. Tools shall be inspected periodically to verify the ratings and markings required by this document are legibly marked on the tool. The employer/user shall contact the manufacturer to obtain replacement marking labels when necessary.

Safety precautions for projectile hazards

1. Failure of the work piece, or accessories, or even of the inserted tool itself may generate high velocity projectiles.
2. Always wear impact-resistant eye protection during the operation of the tool. The grade of protection required should be assessed for each use.
3. Ensure that the work piece is securely fixed.

Safety precautions for entanglement hazards

1. Entanglement hazard - choking, scalping and/or lacerations can occur if loose clothing, personal jewellery, neck ware, hair or gloves are not kept away from tool and accessories.

Safety precautions for operating hazards

1. Use of the tool may expose the operator's hands to hazards including cuts and abrasions and heat. Wear suitable gloves to protect hands.
2. Operators and maintenance personnel must be physically able to handle the bulk, weight and power of the tool.
3. Hold the tool correctly: be ready to counteract normal or sudden movements – have both hands available.
4. Maintain a balanced body position and secure footing.
5. Warnings against the break-through when the tool bit passes through the material being cut
6. Release the start and stop device in the case of an interruption of the energy supply
7. Use only lubricants recommended by the manufacturer
8. Personal protective safety glasses shall be used, suitable gloves and protective clothing are recommended.

Safety precautions for repetitive motions hazards

1. When using the tool to perform work-related activities, the operator may experience discomfort in the hands, arms, shoulders, neck, or

- other parts of the body.
2. While using the tool, the operator should adopt a comfortable posture whilst maintaining secure footing and avoiding awkward or off-balanced postures. The operator should change posture during extended tasks which may help avoid discomfort and fatigue.
 3. If the operator experiences symptoms such as persistent or recurring discomfort, pain, throbbing, aching, tingling, numbness, burning sensation, or stiffness, these warnings should not be ignored. The operator should tell the employer and consult a qualified health professional.

Safety precautions for accessory hazards

1. Disconnect the tool from the energy supply before fitting or changing the inserted tool or accessory.
2. Only use sizes and types of accessories and consumables that are recommended by the tool manufacturer.
3. Avoid direct contact with the inserted tool during and after use as it can be hot or sharp.

Safety precautions for workplace hazards

1. Slips, trips and falls are major causes of workplace injury. Be aware of slippery surfaces caused by use of the tool and also of trip hazards caused by the air line or hydraulic hose.
2. Proceed with care in unfamiliar surroundings. Hidden hazards may exist, such as electricity or other utility lines.
3. The tool is not intended for use in potentially explosive atmospheres and is not insulated from coming into contact with electric power.
4. Make sure there are no electrical cables, gas pipes etc. that could cause a hazard if damaged by use of the tool.

Safety precautions for dust and fume hazards

1. Dusts and fumes generated when using the tool can cause ill health (for example: cancer, birth defects, asthma and/or dermatitis); risk assessment of these hazards and implementation of appropriate controls of is essential.
2. Risk assessment should include dust created by the use of the tool and the potential for disturbing existing dust.
3. Operate and maintain the tool as recommended in these instructions, to minimise dust or fume emissions
4. Direct the exhaust so as to minimise disturbance of dust in a dust filled environment
5. Where dusts or fumes are created, the priority shall be to control them at the point of emission.
6. All integral features or accessories for the collection, extraction or suppression of airborne dust or fumes should be correctly used and maintained in accordance with the manufacturer's instructions.
7. Select, maintain and replace the consumable/inserted tool as recommended in these instructions, to prevent an unnecessary increase in dust or fumes.
8. Use respiratory protection as instructed by your employer and as required by occupational health and safety regulations.

Safety precautions for noise hazards

1. Unprotected exposure to high noise levels can cause permanent, disabling, hearing loss and other problems such as tinnitus (ringing, buzzing, whistling or humming in the ears);
2. Risk assessment of these hazards and implementation of appropriate controls of is essential.
3. Appropriate controls to reduce the risk may include actions such as damping materials to prevent workpieces from 'ringing'
4. Use hearing protection as instructed by your employer and as required by occupational health and safety regulations;
5. Operate and maintain the circular, oscillating or reciprocating saw as recommended in these instructions, to prevent an unnecessary increase in noise levels
6. Select, maintain and replace the consumable/inserted tool as recommended in these instructions, to prevent an unnecessary increase in noise
7. If the tool has a silencer, always ensure it is in place and in good working order when the tool is operating;

Safety precautions for vibration hazards

1. Exposure to vibration can cause disabling damage to the nerves and blood supply of the hands and arms.
2. Wear warm clothing when working in cold conditions and keep your hands warm and dry;
3. If you experience numbness, tingling, pain or whitening of the skin in your fingers or hands, stop using the circular, oscillating or reciprocating saw, tell your employer and consult a physician.
4. Operate and maintain the tool as recommended in these instructions, to prevent an unnecessary increase in vibration levels.
5. Select, maintain and replace the consumable/inserted tool as recommended in these instructions, to prevent an unnecessary increase in vibration levels.
6. Support the weight of the tool in a stand, tensioner or balancer if possible.
7. Hold the tool with a light, but safe, grip taking account of the required hand reaction forces, because the risk from vibration is generally greater when the grip force is higher.

Additional safety instructions for pneumatic power tools

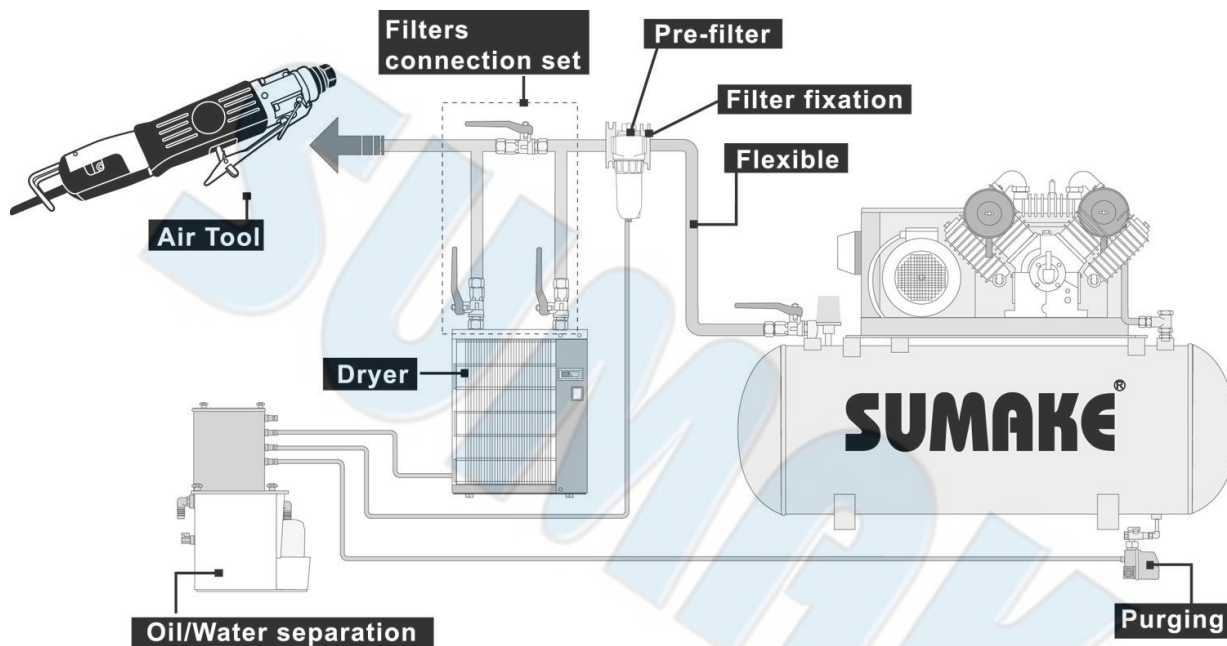
1. Air under pressure can cause severe injury.
2. Always shut off air supply, drain hose of air pressure and disconnect tool from air supply when not in use, before changing accessories or when making repairs.
3. Never direct air at yourself or anyone else.
4. Whipping hoses can cause severe injury. Always check for damaged or loose hoses and fittings.
5. Whenever universal twist couplings (claw couplings) are used, lock pins shall be installed and whipcheck safety cables shall be used to safeguard against possible hose-to-tool and hose-and-hose connection failure.
6. Do not exceed the maximum air pressure stated on the tool.
7. Never carry an air tool by the hose.

Specific safety instructions

Warnings shall be given about any specific or unusual hazards associated with the use of the tool. Such warnings shall indicate the nature of

the hazard, the risk of injury and the avoidance action to take.

General preparation and connection:



1. Before connecting the air hose, apply 4 to 5 drops of SAE#10-20 spindle oil at the air inlet. Also, every 3 to 4 hours of operation, oiling is necessary. Twist Teflon thread tape to ensure a proper seal air inlet. Then tighten the air coupler into air tool.
2. The supplied compressed air must be clean and dry, with the appropriate oil mist. Use an air treatment unit; filter, regulator and lubricator.
3. Please refer Fig.1 illustration shows the correct mode of connection to the air supply system which will increase the efficiency and useful life of the tool.
4. The quick connect coupling and hose must have sufficient air flow capacity. We recommend an air hose with a diameter of 10mm (3/8").
5. To ensure a good performance. The operation pressure at the compressed air inlet should not exceed 6.3bar (90psi) (unless indicated otherwise). Higher operating pressures may cause damaged or excessive wear. Operating pressures below 5.3bar may cause pressure or power loss.



Risk of injury

1. Compressed air can inflict serious injuries. Therefore never point the air hose at another person or yourself.
2. Shut – off the air supply and disconnect the tool in case:
 - You want to change or replace accessories.
 - You want to clean, repair or maintain the tool.
 - The tool is not going to use for some times.
3. Check compressed air hose before use. If it is damaged, broken, torn, or deformed, the hose is not to be connected to the tool.
4. Always check the pneumatic couplings before using the tool. If they show signs of damage, fracture, cracking or excessive corrosion, the respective tool or the air hose is not to be used.
5. Use only qualified adapters and connectors, In case of wear they are to be replaced immediately.
6. Only use air pipes that are fit for the use at maximum pressure.

Maintenance instruction:

1. Dry the filter (fig1) and the air inlet of the tool.
2. Lubricate the quick connect coupling to prevent blocking.
3. Air tool require lubrication throughout the life of the tool. The air motor and bearing uses compressed air to start the tool. The moisture in compressed air will rust the air motor; you must lubricate the motor daily.
4. Avoid storing the tool in a location subject to high humidity. If the tool is left as it is used, the residual moisture inside the tool can cause rust.
5. Before storage, lubricate tool and run it for a few seconds.
6. Regular inspection of spindles, threads, and clamping devices in respect of wear and tolerances for location of abrasive products.
7. If the tool is too seriously damage to be used anymore, recycle raw material instead of disposing as waste. The machine, accessories and packaging should be sorted for environmental-friendly recycling. Check with your local authority or retailer for recycling advice.

