

Operator Instructions

Includes - Formson Use, Work Stations, Putting into Service, Operating, Dismantling, Assembly and Safety Rules

Important

Read these instructions carefully before installing, operating, servicing or repairing this tool. Keep these instructions in a safe accessible place.

Manufacturer/Supplier Sioux Tools Inc. 2901 Floyd Boulevard P.O. Box 507 Sioux City Iowa 51102 U.S.A. Tel No 712-252-0525 Fax No 712-252-4267	Product Type Air Nibbler	RPM Cycles Per Min 2,000	
	Model No./Nos 5444	Serial No	

Product Net Weight 2.2 lbs 1.0 Kg	Recommended Use Of Balancer Or Support No	Recommended Hose Bore Size - Minimum 5/16 Ins 8 M/M	Recommended Max. Hose Length 30 Ft 10 M
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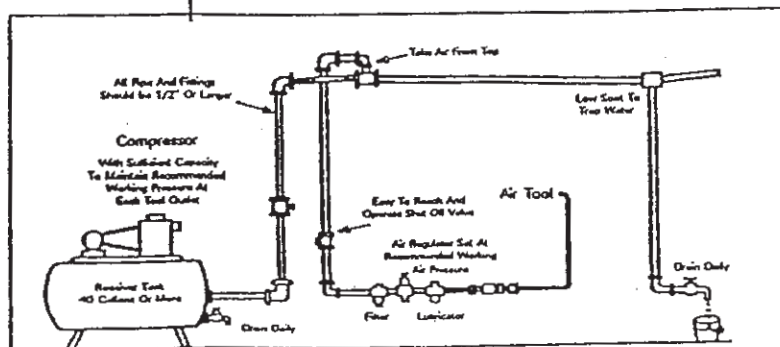
Air Pressure		Noise Level Sound Pressure Level 90.0 dB(A) Sound Power Level 101.0 dB(A)
Recommended Working	6.2 bar 90 PSI	Test Method Tested in accordance with Pneurop test code PN8NTC1 and ISO Standard 3744
Maximum	6.2 bar 90 PSI	

SAFETY MESSAGES Personal Safety Equipment Use - Safety Glasses Yes Use - Safety Gloves Yes Use - Safety Boots Use - Breathing Masks Use - Ear Protectors	<p> WARNING Always Read Instructions Before Using Power Tools Always Wear Safety Goggles Wear Hearing Protection Avoid Prolonged Exposure To Vibration </p>	Vibration Level 4.3 Metres / Sec² Test Method Tested in accordance with ISO standards 8662 Parts 1 & 10
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Safety rules when using a 5444 Air Nibbler

- Always wear safety goggles.
- Prolonged exposure to vibration may cause injury.
- Read all instructions before using this tool. All operators must be fully trained in its use and aware of these safety rules.
- Do not exceed the maximum working air pressure.
- Use personal protection equipment as recommended.
- Use only compressed air at the recommended conditions.
- If the tool appears to malfunction, remove from use immediately and arrange for service and repair. If it is not practical to remove the tool from service, then shut off the air supply to the tool and write or have written a warning note and attach it to the tool.
- If the tool is to be used with a balancer or other suspension device, ensure that the tool is firmly attached to the suspension/support device.
- When operating the tool, always keep the body and particularly the hands away from the working attachment fixed to the tool.
- The tool is not electrically insulated. Never use the tool if there is any chance of coming into contact with live electricity.

- Always when using the tool, adopt a firm footing and/or position and grip the tool sufficiently only to overcome any reaction forces that may result from the tool doing work. Do not overgrip.
- Use only correct spare parts for maintenance and repair. Do not improvise or make temporary repairs. Major servicing and repairs should only be carried out by persons trained to do so.
- Do not lock, tape, wire, etc. the 'On/Off' valve in 'On' position. The trigger lever, etc. must always be free to return to the 'Off' position when released.
- Always shut off the air supply to the tool and press the 'On/Off' valve to exhaust the air from the feed hose before fitting, removing or adjusting the working attachment fitted to the tool.



Recommended Air Supply System

Figure 1

- Before using the tool make sure that a shut off device has been fitted to the supply line and the position is known and easily accessible so that the supply to the tool can be shut off in an emergency.
- Check hose and fittings regularly for wear.
- Take care against entanglement of the moving parts of the tool with clothing, hair, ties, cleaning rags, rings, jewellery, watches, bracelets, etc. This could cause the body or parts of the body to be drawn towards and in contact with the moving parts of the tool and could be very dangerous.
- It is expected that users will adopt safe working practices and observe all local, regional or country legal requirements when installing, using or maintaining the tool.
- Take care that the exhaust air does not point towards any other person or material or substance that could be contaminated by oil droplets. When first lubricating a tool or if the tool exhaust has a high oil content, do not allow the exhaust air to come near very hot surfaces or flames.
- Never lay the tool down until the working attachment has stopped moving.
- When the tool is not in use, shut off the air supply and press trigger/lever to drain the supply line. If the tool is not to be used for a period of time, first lubricate, disconnect from air supply and store in a dry average room temperature environment.
- If the tool is passed from one user to a new or inexperienced user, make sure these instructions are available to be passed with the tool.
- Do not remove any manufacturer fitted safety devices where fitted, i.e. wheel guards, safety trigger, speed governors, etc.
- Where ever possible, secure workpiece with clamps, a vise, etc. to make it rigid so it does not move during the work operation. Keep good balance at all times. Do not stretch or overreach.
- Try to match the tool to the work operation. Do not use a tool that is too light or heavy for the work operation. If in doubt, seek advice.
- In general terms this tool is not suitable for underwater use or use in explosive environments -- seek advice from manufacturer.
- Try to make sure that the work area is clear to enable the work task to be performed safely. If practical and possible, try to clear unnecessary obstructions before starting work.
- Always use air hose and couplings with minimum working pressure ratings at least 1 1/2 times the maximum working pressure rating of the tool.

Foreseen Use of the Tool

This air nibbler is designed to cut mild steel sheet up to 16 gauge (0.082" (1.5mm) thick. It cuts the metal sheet by the action of a reciprocating punch producing a 0.172" (4.37mm) wide slot. The anvil is adjustable for forward, backward and left or right cutting. This enables the nibbler to make sheet metal cuts of any configuration including holes as small as 1" (25.4mm) which makes it an ideal tool for use with templates.

The nibbler readily cuts most non ferrous materials, aluminium, brass, Formica, laminates, fibreglass and masonite, etc. The tool can generally cut materials of this type up to the maximum thickness that will enter under the tools raised punch. The tool should not be used for any other purpose, modified for alternative use or modified for its use as a nibbler unless first checking the suitability of this alternative use with the manufacturer or authorized distributor.

Work Stations

The tool should only be used as a handheld, hand operated tool. It is always recommended that the tool is used when standing on a solid floor. It can be used in other positions but before any such use, the operator must be in a secure position having a firm grip and footing and be aware of a reaction force on the hand as result of the tool doing work.

Putting Into Service

Air Supply

Use a clean lubricated air supply that will give a measured air pressure at the tool of 90 p.s.i./6.2 bar when the tool is running with the trigger fully depressed. Use recommended hose size and length. It is recommended that the tool is connected to the air supply as shown in figure 1. Do not connect the tool to the air line system without incorporating an easy to reach and operate air shut off valve. The air supply should be lubricated. It is strongly recommended that an air filter, regulator, lubricator (FRL) is used as shown in Figure 1 as this will supply clean, lubricated air at the correct pressure to the tool. Details of such equipment can be obtained from your supplier. If such equipment is not used then the tool should be lubricated by shutting off the air supply to the tool, depressurising the line by pressing the trigger on the tool. Disconnect the air line and pour into the inlet bushing a teaspoonful (5ml) of a suitable pneumatic motor lubricating oil preferably incorporating a rust inhibitor. Reconnect tool to air supply and run tool slowly for a few seconds to allow air to circulate the oil. If tool is used frequently lubricate on daily basis and if tool starts to slow or lose power.

It is recommended that the air pressure at the tool whilst the tool is running is 90 p.s.i./6.2 bar.

Operating

Ensure that the action under putting into service has been followed and the material to be cut is within the capacity of the tool - see Foreseen Use of Tool.

Apply tool to sheet to be cut and try to keep the center line of the motor housing of the tool parallel to or the center line of the head (3) at right angles to the sheet. Do not force the tool, allow it to cut. A smear of oil or grease on the line of the cut will make cutting easier. When using the nibbler keep in mind that a considerable variation will be found in the strength and hardness of low carbon steel sheet as well as stainless steel and this will affect performance. Also certain materials such as very soft aluminium will build up on the punch unless it is well lubricated.

Do not hold the object to be cut in the hand, if the object to be cut is not stable and firm secure object in an appropriate way.

The anvil mechanism must be kept lubricated. The lever (30) is the on/off valve for the nibbler. The airflow and hence speed/power can be controlled by use of the air regulator (36). Using a screwdriver turn the screw until the slot aligns with the center line of the tool for maximum conditions and through 90° for minimum conditions.

An air strainer (screen) is located in the inlet bushing and this should be checked periodically for blockage particularly if the tool slows or loses power.

Changing cutting direction

The anvil can be set to cut in four directions - forwards, backwards, left or right.

To change direction:

1. Break loose the anvil lock nut (28mm open end wrench) and loosen the nut about three complete revolutions.
2. Pull out on anvil and rotate it to one of the three other set positions - 180° or 90° to the right or left.
3. Push anvil back in while rotating it back and forth slightly to engage alignment pin with a slot in base of anvil.
4. While holding anvil in position, tighten lock nut Torque to 25-29 lb.ft.

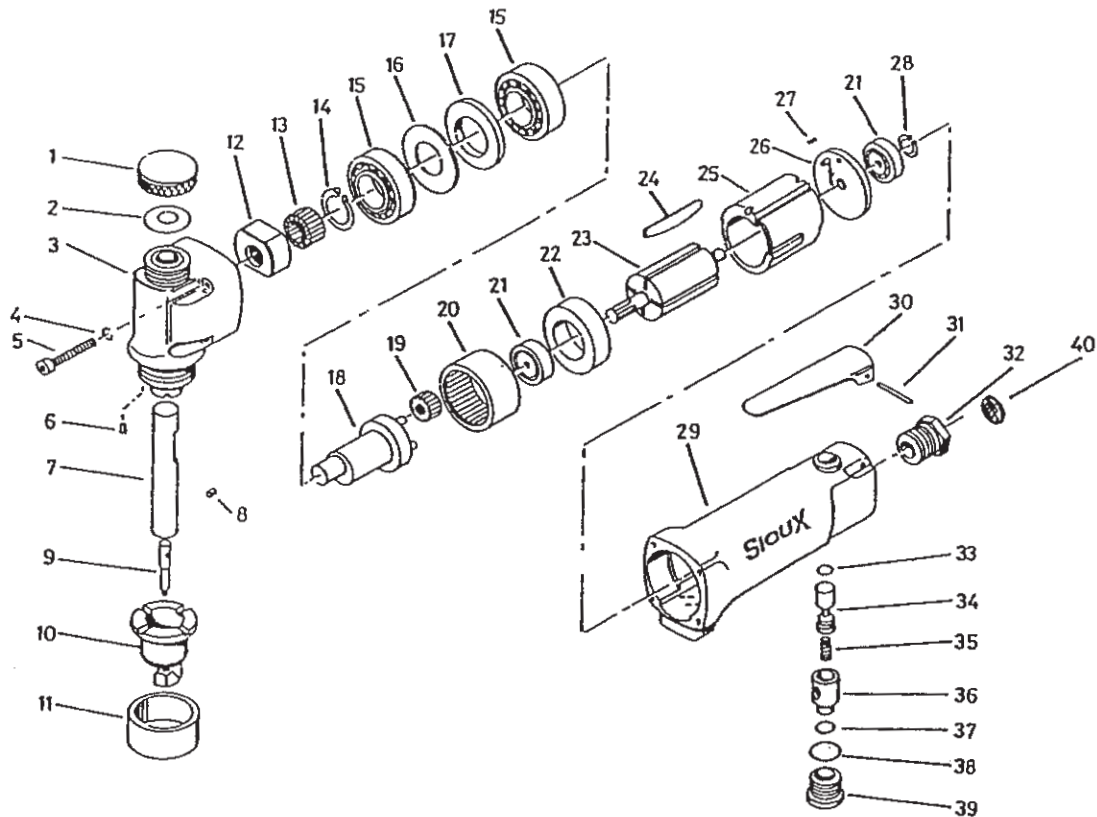
Installing replacement punch.

Note: One extra punch (Part # 67014) has been included with the Nibbler. Replacement punches can be ordered from your Sioux



5444

Air Nibbler



Ref No	Part No	Description
1	67006	Head Cap
2	67007	Cap Gasket
3	67008	Head
4	67009	Washer (4) ※
5	67010	Screw (4) ※
6	67011	Pin
7	67012	Slide Pin
8	67013	Set Screw
9	67014	Punch
10	67015	Anvil
11	67016	Lock Nut
12	67017	Cam
13	67018	Needle Roller (13)
14	67019	Retaining Ring
15	67020	Ball Bearing (2) ※
16	67021	Seal Plate
17	67022	Spacer
18	67023	Crank Shaft
19	67024	Idler Gear (3) ※
20	67025	Internal Gear
21	66504	Ball Bearing (2) ※
22	67026	Front End Plate

Ref No	Part No	Description
23	67027	Rotor
24	67028	Rotor Blade (4)
25	67029	Cylinder
26	67030	Rear End Plate
27	67031	Pin
28	67032	Retaining Ring
29	67033	Motor Housing
30	67034	Throttle Lever
31	67035	Lever Pin
32	67036	Inlet Bushing
33	67037	O-Ring
34	67038	Valve Stem
35	67039	Valve Spring
36	67040	Air Regulator
37	66600	O-Ring
38	67041	O-Ring
39	67042	Throttle Valve Plug
40	67043	Screen
	67044	Name Plate (Not Shown)
	67045	Label Warning (Not Shown)

※Order quantity as needed

representative.

1. Loosen anvil lock nut (28 mm open end wrench) and remove nut and anvil.
2. Loosen set screw on shank (2.5mm hex wrench) and remove punch.
3. Insert new punch until it bottoms and tighten set screw.
4. Place anvil over slide pin and position anvil in desired cutting direction. Making sure that alignment pin is engaged in desired anvil slot, secure in position with lock nut. Torque lock nut to 25-29 lb.ft.

Dismantling & Assembly Instructions

Disconnect tool from air supply. Hold tool in a vise fitted with soft jaws on the flats at the rear end of motor housing (29) and unscrew inlet bushing (32) with screen (40). With a wide bladed screwdriver unscrew throttle valve plug (39) and take out air regulator (36) with O-rings (38) and (37), spring (35), valve stem (34) with O-ring (33). Remove O-ring (33) from valve stem (34). Drive out lever pin (31) and take off lever (30). Take out 4 off screws (5) with washers (4) and pull off head assembly. Take out internal gear (20) and 3 off idler gears (19). Pull out the motor assembly from motor housing (29).

To dismantle motor assembly remove retaining ring (28) from end of rotor (23) and grip front end plate (22) tightly by hand and tap the splined end of rotor (23) with a non metallic or soft metal [lead or aluminium] hammer so as not to damage the splines and drive the rotor through front end plate (22) and bearing (21). Take off cylinder (25) noting how it locates to rear end plate (26) via pin (27) and take out 4 off rotor blades (24) from rotor (23). Locate rotor (23) in a piece of tube with a bore size just slightly larger than the maximum diameter of the rotor (23) and tap the non splined end of the rotor (23) to drive the rotor small end diameter through rear end plate (26) and bearing (21). Remove bearings (21) from the front end plate (22) and rear end plate (26). Pull out the crank shaft (18) assembly. Take off cam (12) and 13 off needle rollers (13) from crankshaft (18). Remove retaining ring (14) from crankshaft (18) and tap the eccentric end of crankshaft (18) to drive it through 2 off bearings (15), spacer (17) and seal plate (16). Unscrew head cap (1) and take off cap gasket (2) from head (3). Unscrew lock nut (11) from head (3) and take off anvil (10) noting the four positions that it can be located to head (3) via pin (6) and the four notches in anvil (10). Pull out slide pin (7) complete with set screw (8) and punch (9). Remove set screw (8) from slide pin (7) and pull out punch (9). Note: *Do not remove the 3 off pins from crankshaft (18). If the pins are worn replace the complete crankshaft.

Clean all parts and examine for wear. Use only replacement parts supplied by the manufacturer or authorized agent. Lubricate slide pin (7), needle rollers (13), idler gears (19) and internal gear (20) and bearings (15) and (21) with a lithium or molybdenum based general purpose grease. Coat all parts with a pneumatic tool lubricating oil and reassemble in the reverse order. When reassembling the motor assembly make sure that the faces of end plates (22) and (26) that abut cylinder (25) are flat and free from burrs and surface defects. If necessary lap on a flat very fine grade of abrasive paper. With the lever

(30) depressed pour into the inlet bushing 5ml of a suitable pneumatic tool lubricating oil, release lever, connect tool to suitable air supply and run tool slowly for a few seconds to allow the oil to circulate.

Operation Specifications *	
Air Consumption	3.6cfm (2.6 scfm)
Strokes per min	2,000
Width of Cut	0.172in (4.37mm)
Air Inlet Thread	1/4-18 NPT

* at 90 PSIG

Notes

Declaration of Conformity

Sioux Tools Inc.

2901 Floyd Boulevard, P.O. Box 507, Sioux City, Iowa 51102, U.S.A.

declare under our sole responsibility that the product

Model 5444 Air Nibbler, Serial Number

to which this declaration relates is in conformity with the following standard(s) or other normative document(s)

EN792 (Draft), EN292 Parts 1 & 2, ISO 8662 Parts 1 & 10, Pneurop PN8NTC1

following the provisions of **89/392/EEC as amended by 91/368/EEC & 93/44/EEC Directives**

R. V. Caskey (V.P./General Manager)

Name and signature or equivalent marking of authorized person

This pdf incorporates the following model numbers:
5444