



Operator Instructions

Includes- Foreseen 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

1/4" Medium Die Grinder

RPM
22,000
Cycles Per Min



Serial No (if any)

Model No/Nos

5054

Product Net Weight

1.34 lbs
0.61 Kg

**Recommended Use Of
Balancer Or Support**

No

**Recommended Hose Bore
Size - Minimum**

1/4 ins 8 M/M

**Recommended Max.
Hose Length**

30 Ft 10 M

Air Pressure			
Recommended Working	6.2 bar	90 PSIG	
Maximum	6.2 bar	90 PSIG	

Noise Level Sound Pressure Level 91.0 dB(A)
Sound Power Level 102.0 dB(A)
Test Method Tested in accordance with Pneurop
test code PN8NTC1 and ISO Standard 3744

Personal Safety Equipment

Use - Safety Glasses	Yes
Use - Safety Gloves	Yes
Use - Safety Boots	
Use - Breathing Masks	Yes
Use - Ear Protectors	Yes

Vibration Level Less than 2.5 Metres / Sec²

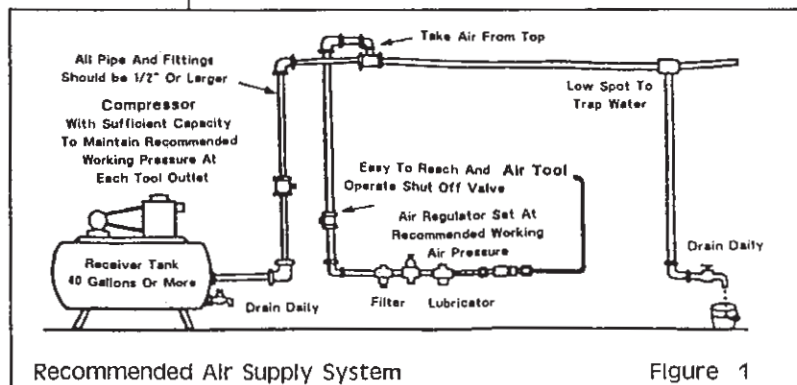
Test Method Tested in accordance with ISO
standard 8662/1 & 8662/13

Safety rules when using a 5054 Die Grinder

- Use accessories rated at least 25,000 RPM (read carefully section - Operating)
- 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 compressed air only 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 affixed 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 approved spare parts for maintenance and repair. Do not modify 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 the '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.

- 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, jewelry, 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 become 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 an extended 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 $1\frac{1}{2}$ times the maximum working pressure rating of the tool.

Foreseen Use Of The Tool

This die grinder is primarily designed for use with bonded abrasive mounted point grinding wheels. It may also be used with steel rotary files and carbide burrs provided their speed rating matches the speed of the grinder.

This tool should not be fitted with cut off wheels, saw blades, drill bits, etc. If there is any doubt about the correct use of this product contact your supplier for advice.

Also make sure that the shank size of the attachment to be driven matches with the collet size fitted in the grinder and that the maximum allowed running speed of the attachment exceeds that marked on the grinder.

There are special rules governing the use of bonded abrasive mounted point grinding wheels - for details see section "Operating".

Work Stations

The tool should only be used as a hand held 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 the extra safety precautions that must be observed when using grinding machines.

Putting into Service

Air Supply

Use a clean lubricated air supply that will give a measured air pressure at the tool of 90 PSIG (6.2 bar) when the tool is running with the lever/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

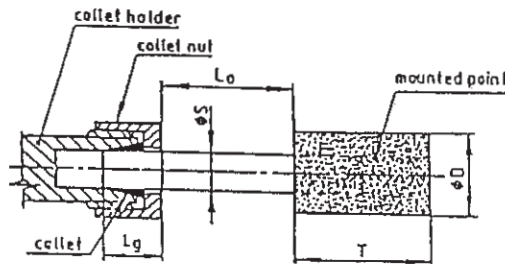


Figure 2. Gripping length of collet and chuck

- D = diameter of mounted point
- T = length of mounted point
- Lo = overhang
- S = diameter of shank
- Lg = gripping length

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, depressurizing the line by pressing the lever/trigger on the tool. Disconnect the air line and pour into the hose adaptor a teaspoonful (5ml) of 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.

Operating

Select a suitable mounted point that has a free running speed higher than the maximum running speed marked on the tool. Make sure that the diameter of the shank exactly matches the diameter of the collet mounted in the grinder. There are two standard sizes of collet available for use with this grinder, i.e.
1) - 1/4" dia (0.250ins)(6.35mm)
2) - 6mm(0.236ins)

Always match correctly the shank size to the collet size. If uncertain, have parts measured by a competent person.

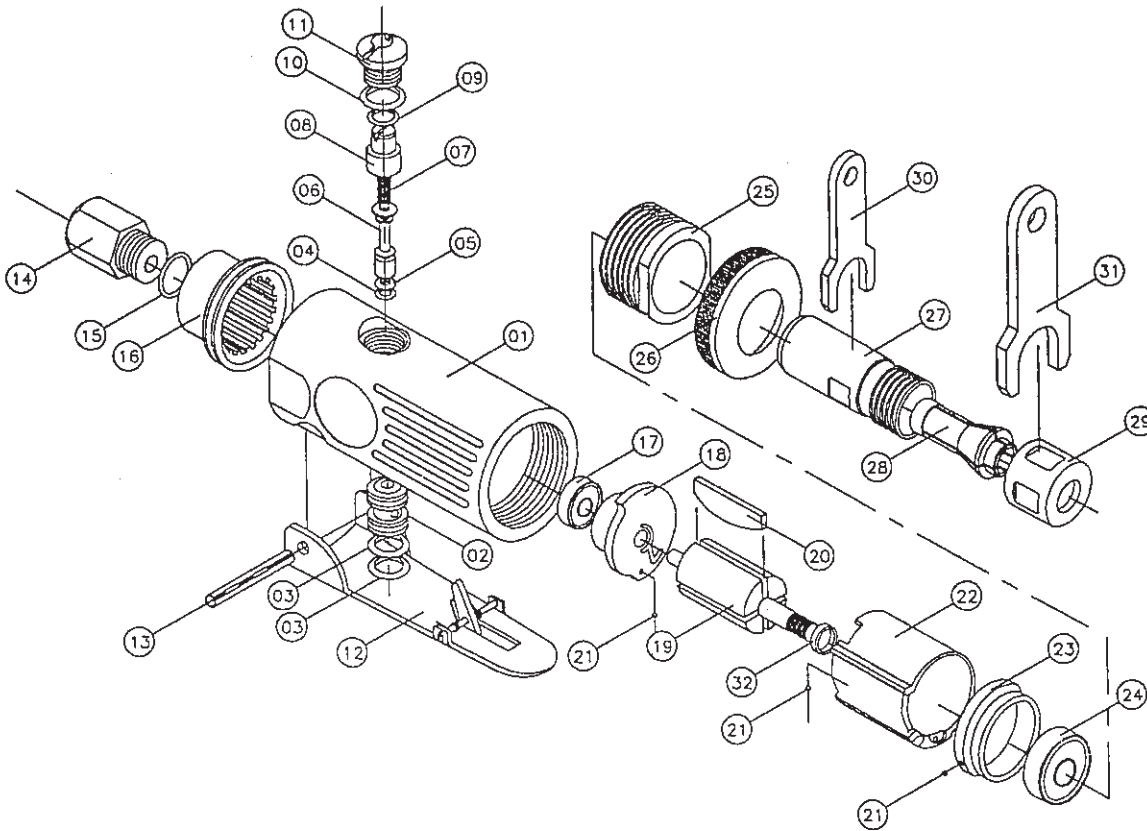
Push the shank as far as possible into the collet and tighten the collet nut using the spanners provided on the collet nut and output spindle. The shank of the mounted point may be pulled forward from the maximum insertion length but always ensure a minimum gripping length of not less than 10mm - See Figure 2.

Be aware that the allowed running speed of the mounted point is lowered because of an increase in the length of the shank between the end of the collet and the body of the mounted point. This distance is shown in Diagram 2 as "LO" and is called the overhang. The information with respect to mounted point



5054

1/4" Medum Die Grinder



Part No	Part No	Description
1	66436	Housing
2	66444	Bushing Throttle Valve
3	66450	O-Ring(2)
4	66442	O-Ring
5	66451	O-Ring
6	66443	Pin-Throttle
7	66441	Spring
8	66440	Air Regulator
9	66464	O-Ring
10	66438	O-Ring
11	66437	Valve Plug
12	66445	Safety Throttle Lever
13	66446	Pin
14	66469	Hose Adaptor
15	66429	O-Ring
16	66448	Muffler

Ref No	Part No	Description
17	66435	Ball Bearing
18	66420	Rear End Plate
19	66432	Rotor
20	66433	Rotor Blade(4)
21	66414	Steel Ball(3)
22	66430	Cylinder
23	66428	Front End Plate
24	66427	Ball Bearing
25	66424	Nut-Clamp
26	66415	Cap-Housing
27	66419	Chuck-Spindle
28	66416	Collet
29	66417	Nut-Collet
30	66496	Spanner
31	66478	Spanner
32	66406	Spacer

size, permissible running speed and reduction in running speed due to an increase in overhang is available from the supplier of the mounted point.

If the increase in overhang for access reasons takes the permissible running speed of the mounted point below the free running speed of the grinder select a smaller diameter mounted point.

The fitting of the mounted point should be done by a trained operator. When first starting the grinder with a new point fitted, the grinder should not be near other persons and be held in a protected area, i.e. under a bench and run for a few seconds. This will protect personnel from possible effects of damage to the mounted point before it was fitted to the grinder i.e. point breakage.

Always use eye protection and wear protective gloves. The tool and the grinding process can create a noise level such that the use of ear protectors is advised. If the grinding process creates a dust then use a suitable breathing mask.

Check that the material being worked will not cause harmful dust or fumes. If this is so then special breathing masks may be required. If the grinder vibrates when first fitting a mounted point or during operation, remove from service immediately and correct fault before continuing to use.

Do not apply excessive pressure as this will reduce the cutting efficiency and can bend the shank of the mounted point causing vibration and the possibility of breakage. Apply light loads to allow the point to cut.

Handle the grinder with care. If the grinder is dropped, carefully check the mounted point for damage, i.e. cracks, chipping and start for the first time as for fitting a new point i.e. under a bench.

Never exceed the maximum air pressure. If there is this possibility always use this grinder with a pressure reducing valve fitted in the supply line. Your supplier will advise of suitable equipment.

When making speed checks always rotate the air regulator to the position to give the highest maximum speed.

The lever on a die grinder is an on/off valve. The air flow can be controlled by adjusting the valve(8) opposite the lever. Using a screwdriver turn the valve until the slot aligns with the center line of the tool for the maximum speed and power and rotate 90° for minimum speed and power. An air strainer is located in the air inlet (14) of the grinder. Remove inlet bushing(14) to clean the strainer.

punch tap out bearing(17) from rear end plate(18). Take off cylinder(22) noting how it locates to rear end plate(18) and front end plate(23) via steel balls(21). Take out 4 off rotor blades(20) from rotor(19). Grip rotor(19) being very careful not to damage it or raise burrs on it and unscrew chuck spindle(27) from it to release front end plate(23) and bearing(24) assembly. With suitable punch tap out bearing(24) from front end plate(23). Take off spacer(32) from rotor(19).

With a wide bladed screwdriver unscrew valve plug(11) and take out air regulator(8) with O-rings(9) & (10), spring(7) and pin throttle(6) fitted with O-rings(4) & (5). Remove O-rings(4) & (5) from pin throttle(6). If a replacement is required push out throttle bushing(2) complete with O-rings(3) and remove 2 off O-rings(3) from throttle bushing(2).

Reassembly

Clean all parts and examine for wear and replace any parts only with parts obtained from the manufacturer or an approved distributor. Ensure that the faces of end plates(18) & (23) that abut cylinder(22) are flat and free from burrs and surface marking. If necessary lap on a flat very fine grade of abrasive paper. Lightly coat all parts in a suitable pneumatic tool lubricating oil and pack bearings with a lithium or molybdenum general purpose grease and assemble in the reverse order. With the lever(12) depressed pour into hose adaptor(14) 5ml of a pneumatic tool lubricating oil. Release the lever and connect to a suitable air supply and run tool slowly for a few seconds to allow the oil to circulate. Check the function of the collet, air regulator and safety lever before returning to service. Before fitting mounted point grinding wheel check speed of tool and point—refer to section "Operating".

Operation Specification	
Air Consumption	35cfm(25 scfm)
Recommended Minimum Hose	8Feet of 5/16(8mm)Bore
Air Inlet Thread	1/4-18NPT
Length	6 1/2"(165mm)
at 90 PSIG	

Dismantling & Assembly Instructions

Disconnect tool from air supply.

Grip chuck spindle(27) with wrench(30) and collet nut(29) with wrench(31) and unscrew collet nut(29) and take out mounted point grinding wheel as fitted. Remove collet nut(29) and pull out collet (28). Grip motor housing(1) by the flats at the rear end in a vise fitted with soft jaws and drive out pin(13) and take off safety throttle lever(12). Unscrew hose adaptor with screen(14) and take off O-ring(15) from hose adaptor (14) and pull out muffler (16). Unscrew cap-housing(26) and unscrew nut clamp(25) and grip chuck-spindle(27) and pull out complete with motor assembly. Note at this time how the ball(21) in the side of front end plate(23) locates the motor assembly to the housing by locating in the slot in the front bore of the motor housing(1). Grip or support rear end plate(18) and tap the rear end of the rotor(19) to drive it through the rear end plate(18) and bearing(17) assembly. With a suitable

Notes

Declaration of Conformity

Sioux Tools Inc.

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

declare under our sole responsibility that the product

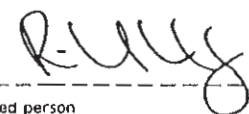
Model 5054 1/4" Medium Die Grinder, Serial Number

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

EN792 (Draft), EN292 Parts 1 & 13, ISO 8662 Parts 1 & 13, Pneurop PN8NTC1

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

R V Caskey (President)



Place and date of issue

Name and signature of equivalent marking of authorized person

This pdf incorporates the following model numbers:
5054