



! WARNING

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- Lead from lead-based paints,
- Crystalline silica from bricks and cement and other masonry products, and
- Arsenic and chromium from chemically-treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: 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.

! WARNING

- MAXIMUM RPM OF 70,000
- MAX AIR PRESSURE: 90 PSIG, 6.2 BAR
- RPM OF THE ACCESSORY MUST EXCEED TOOL RPM



ALWAYS READ INSTRUCTIONS BEFORE USING POWER TOOLS



ALWAYS WEAR SAFETY GOGGLES



WEAR HEARING PROTECTION



AVOID PROLONGED EXPOSURE TO VIBRATION

SPECIFICATIONS

Free Speed (RPM)70,000	Air Pressure (PSI)90
Collet Size (In.)1/8"	Air Consumption (CFM) 1
Air Inlet (NPT)1/4"	Hose Size (I.D.) 5/16"

PDG90-01

Right Angle Pencil Die Grinder

FAILURE TO OBSERVE THESE WARNINGS COULD RESULT IN INJURY.



THIS INSTRUCTION MANUAL CONTAINS IMPORTANT SAFETY INFORMATION.

READ THIS INSTRUCTION MANUAL CAREFULLY AND UNDERSTAND ALL INFORMATION BEFORE OPERATING THIS TOOL.

- Always operate, inspect and maintain this tool in accordance with American National Standards Institute Safety Code of Portable Air Tools (ANSI B186.1) and any other applicable safety codes and regulations.
- For safety, top performance and maximum durability of parts, operate this tool at 90 psig, 6.2 bar max air pressure with 3/8" diameter air supply hose.



- Always wear impact-resistant eye and face protection when operating or performing maintenance on this tool. Always wear hearing protection when using this tool.



- High sound levels can cause permanent hearing loss. Use hearing protection as recommended by your employer or OSHA regulation.



- Keep the tool in efficient operating condition.
- Operators and maintenance personnel must be physically able to handle the bulk, weight and power of this tool.
- Air under pressure can cause severe injury. Never direct air at yourself or others. Always turn off the air supply, drain hose of air pressure and detach tool from air supply before installing, removing or adjusting any accessory on this tool, or before performing any maintenance on this tool. Failure to do so could result in injury. Whip hoses can cause serious injury. Always check for damaged, frayed or loose hoses and fittings, and replace immediately. Do not use quick detach couplings at tool. See instructions for correct set-up.



- Air powered tools can vibrate in use. Vibration, repetitive motions or uncomfortable positions over extended periods of time may be harmful to your hands and arms. Discontinue use of tool if discomfort, tingling feeling or pain occurs. Seek medical advice before resuming use.



- Place the tool on the work before starting the tool.
- Slipping, tripping and/or falling while operating air tools can be a major cause of serious injury or death. Be aware of excess hose left on the walking or work surface.



- Keep body working stance balanced and firm. Do not overreach when operating the tool.
- Anticipate and be alert for sudden changes in motion during start up and operation of any power tool.

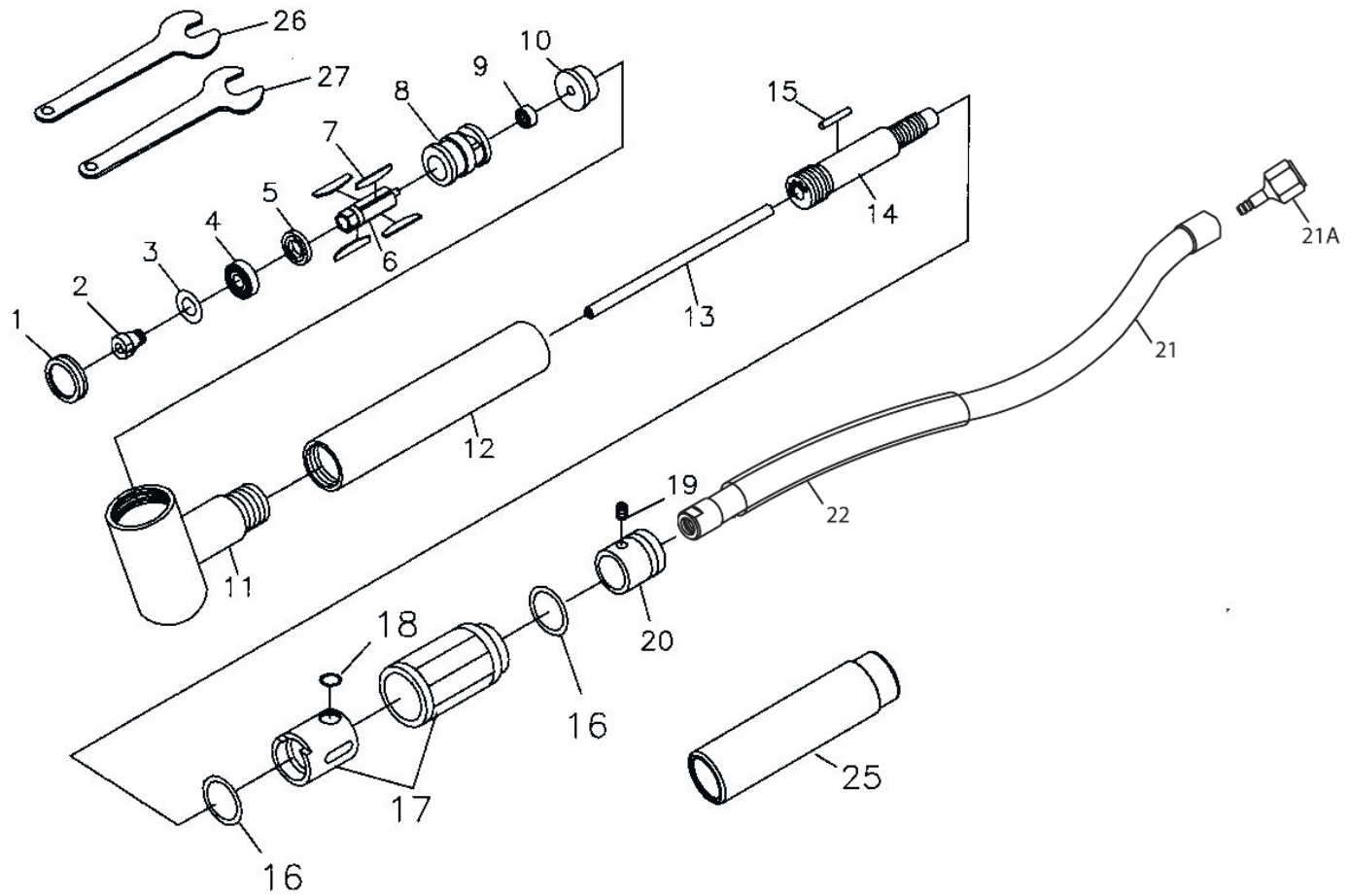


- Do not carry tool by the hose. Protect the hose from sharp objects and heat.
- Tool shaft may continue to rotate briefly after throttle is released. Avoid direct contact with accessories during and after use. Gloves will reduce the risk of cuts or burns.
- Keep away from rotating end of tool. Do not wear jewelry or loose clothing. Secure long hair. Scalping can occur if hair is not kept away from tool and accessories. Choking can occur if neckwear is not kept away from tool and accessories.

- Correct grinding wheel mounting is necessary to prevent injury from broken wheels. Do not use chipped or cracked grinding wheels. Grinding wheels should be a free fit on the spindle to prevent stress at the hole. Use only wheel collars that come with the grinder for mounting the grinding wheel. Flat washers or other adapters may over stress the wheel. Always use heavy paper blotter discs between the wheel collars and the grinding wheel. Tighten the wheel on the spindle to prevent spin off when the air grinder is turned off.
- Do not lubricate tools with flammable or volatile liquids such as kerosene, diesel or jet fuel.
- Do not force tool beyond its rated capacity.
- Do not remove any labels. Replace any damaged labels.

PDG90-01

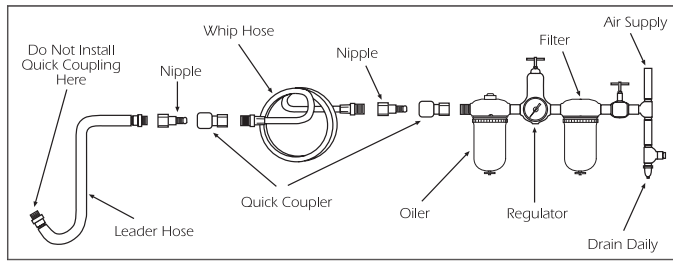
Right Angle Pencil Die Grinder



Ref. #	Item #	DESCRIPTION	QTY	Ref. #	Item#	DESCRIPTION	QTY
1	RSPDG9001	Clamping Nut	1	16	RSPDG9016	O-Ring (P10)	2
2	RSPDG9002	Collet, (1/8")	1	17	RSPDG9017	Sliding Knob Assy.	1
3	RSPDG9003	Spacer	1	18	RS24520	O-Ring (3 x 2.2)	1
4	RSPDG9004	Ball Bearing	1	19	RS24522	Screw	1
5	RSPDG9005	Front End Plate	1	20	RS24523	Rear End Holder	1
6	RSPDG9006	Rotor	1	21	RS24525	Hose	1
7	RSPDG9007	Rotor Blade	4	21A	RS24526	Air Inlet	1
8	RSPDG9008	Cylinder	1	22	RSPDG28	Black Silencer	1
9	RSPDG9009	Ball Bearing (693ZZ)	1	25	RSPDG9025	Comfort Grip	1
10	RSPDG9010	Rear End Plate	1	26	RSPDG9026	6mm Wrench	1
11	RSPDG9011	Angle Housing	1	27	RSPDG9027	8mm Wrench	1
12	RSPDG9012	Sleeve	1	*	RS24532	Filter (Oiler)	1
13	RSPDG9013	Air Intake Tube	1	* NOT SHOWN			
14	RSPDG9014	Hose Plug	1				
15	RS24518	Short Pin	1				

Accessories also available:					
PDG90-02	2mm Drum Grinding Stone	5	PDG90-07	8mm Drum Grinding Stone	5
PDG90-03	3mm Drum Grinding Stone	5	PDG90-08	10mm Drum Grinding Stone	5
PDG90-04	4mm Drum Grinding Stone	5	PDG90-09	7mm Large Radius Grinding Stone	5
PDG90-05	5mm Drum Grinding Stone	5	PDG90-10	6mm Small Radius Grinding Stone	5
PDG90-06	6mm Drum Grinding Stone	5	PDG90-11	16 x 3mm Disc Grinding Stone	5

Operating Instructions • Warning Information • Parts Breakdown



Air Supply...

Tools of this class operate on a wide range of air pressures. It is recommended that air pressure of these tools measures 90 PSI at the tool while running free. Higher pressure (over 90 psig; 6.2 bar) raises performance beyond the rated capacity of the tool, which will shorten tool life because of faster wear and could cause injury.

Always use clean, dry air. Dust, corrosive fumes and/or water in the air line will cause damage to the tool. Drain the air tank daily. Clean the air inlet filter screen on at least a weekly schedule. The recommended hookup procedure can be viewed in the above figure.

The air inlet used for connecting air supply has standard 1/4" NPT. Line pressure should be increased to compensate for unusually long air hoses (over 25 feet). Minimum hose diameter should be 3/8" I.D. and fittings should have the same inside dimensions and be tightly secured.

Operation...

When using the grinder, be careful not to exert excessive force. Too much force may be hazardous, if it causes the cutting tool spindle to bend or break. The burning of the work piece or excessive speed reduction indicates too much force being applied. Changing to a free cutting tool may be better for the desired rate of speed and stock removal.

Avoid hazardous condition by making sure there is sufficient gripping force on the spindle of the cutting tool by placing the spindle 7/16" or more inside the collet.

Lubrication...

Lubricate the air motor daily with quality air tool oil. If no air line oiler is used, run a teaspoon of oil through the tool. The oil can be squirted into the tool air inlet or into the hose at the nearest connection to the air supply, then run the tool. The amount of oil to be used is 1 ounce. Overfilling will cause a reduction in the power of the tool.

Other factors outside the tool may cause loss of power or erratic action. Reduced compressor output, excessive drain on the air line, moisture or restrictions in air pipes or the use of hose connections of improper size or poor condition may reduce air supply. Grit or gum deposits in the tool may cut power and may be corrected by cleaning the air strainer and flushing out the tool with gum solvent oil or an equal mixture of SAE #10 oil and kerosene. If outside conditions are in order, and the tool continues erratic action or low power, disconnect tool from hose and contact your nearest authorized service center.

WARRANTY

We warrant that this tool shall be free from defects in original workmanship and material and that it will be inspected by us before shipment. Our obligation to the original purchaser for any default under this warranty or for any fault or negligence in manufacturing is limited to repairing or replacing at our expense, not including shipping charges, such defective merchandise, if returned by the original purchaser within one year after date of purchase, all incoming shipping charges prepaid, provided that this defect is not the result of misuse or abnormal operation, and that the purchaser has lubricated described tool as required and maintained it under normal operating conditions at all times.

Mac Tools, whose policy is one of continued product improvement, reserves the right to make changes in design and/or construction at any time without incurring any obligation on tools previously sold.