

# 1/8" Micro Die Grinder

Stock Number M547

## OWNER'S MANUAL

### SPECIFICATIONS:

Collet size (IN.)	1/8
Air pressure (P.S.I.)	90
Average air consumption (C.F.M.)	2
Free speed (R.P.M.)	54,000
Air inlet (N.P.T.)	1/4
Hose size (I.D.)	3/8 in.
Hose length (IN.)	42
Tool length (IN.)	6.0
Weight (LBS)	1.76

Specifications are subject to change without notice.



### WARNING!

**READ, UNDERSTAND AND FOLLOW ALL INSTRUCTIONS AND WARNINGS BEFORE OPERATING THIS TOOL. FAILURE TO DO SO MAY RESULT IN PERSONAL INJURY AND/OR PROPERTY DAMAGE AND WILL VOID WARRANTY.**

*Some dust created by power sanding contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. An example of this type of chemical is lead based paints, Crystalline Silica from bricks and cement or other masonry, 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: work in a well ventilated area and work with approved safety equipment, such as dusk masks that are specially designed to filter out microscopic particles.*

**PT**  
Performance Tool

### LIMITED WARRANTY

PERFORMANCE TOOL® extends only the following warranties, and only to original retail purchasers. These warranties give specific legal rights. Except where prohibited by local law, the law of the State of Washington governs all warranties and all exclusions and limitations of warranties and remedies. There may be other rights which vary from state to state.

PERFORMANCE TOOL® warrants the product to be free from defects in materials and workmanship under normal use and service. A defective product may be returned for a free replacement within 90 days from the date of purchase, provided that product is returned to place of purchase immediately after discovery of defect. After 90 days and up to one year from date of purchase, PERFORMANCE TOOL® will replace at no charge any parts which our examination shall disclose to be defective and under warranty. These warranties shall be valid only when a sales receipt showing the date of purchase accompanies the defective product or defective part (s) being returned. For part (s) after 90 days, please remit your request, postage prepaid to:

PERFORMANCE TOOL, P.O. Box 88259 Tukwila, WA 98138

These warranties exclude blades, bits, punches, dies, bulbs, fuses, hoses, and other consumables which must be replaced under normal use and service. These warranties shall not apply to any product or part which is used for a purpose for which it is not designed, or which has been repaired or altered in any way so as to affect adversely its performance or reliability, nor shall these warranties apply to any product or part which has been subject to misuse, neglect, accident or wear and tear incident to normal use and service.

PERFORMANCE TOOL® does not authorize any other person to make any warranty or to assume any liability in connection with its products.

Except for warranties of title and the limited express warranties set forth above, PERFORMANCE TOOL® makes no express or implied warranties of any kind with respect to its products. In particular, PERFORMANCE TOOL® makes no implied warranty of merchantability and no implied warranty of fitness for any particular purpose, except that for goods purchased primarily for personal, family or household use and not for commercial or business use. PERFORMANCE TOOL® makes an implied warranty of merchantability (and, if otherwise applicable, an implied warranty of fitness for a particular purpose), but only for the particular qualities or characteristics, and for the duration, expressly warranted above.

The laws on limitation of implied warranties may differ from state to state, so the above limitations may not apply in all cases.

PERFORMANCE TOOL® shall not be liable for consequential, incidental or special damages resulting from or in any manner related to any product, or to the design, use, or any inability to use the product. The sole and exclusive remedy for a defective product or part shall be the repair, or replacement thereof as provided above. The laws on limitation of remedies or on consequential, incidental or special damages may vary from state to state, so the above limitations may not apply in all cases.

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## IMPORTANT SAFETY INFORMATION

### WARNING!

**READ, UNDERSTAND AND FOLLOW ALL INSTRUCTIONS AND WARNINGS BEFORE OPERATING THIS TOOL. FAILURE TO DO SO MAY RESULT IN PERSONAL INJURY AND/OR PROPERTY DAMAGE AND WILL VOID WARRANTY.**

1. Keep work area clean. Cluttered areas invite injuries.
2. Observe work area conditions. Do not use machines or power tools in damp or wet locations. Don't expose to rain. Keep work area well lighted. Do not use electrically powered tools in the presence of flammable gases or liquids. Do not bring combustible materials near the tools.
3. As with any tool, use common sense when operating. Do not wear loose clothing or jewelry that could become caught by moving parts, causing injury. Operate tool a safe distance from yourself and others in the work area.
4. Keep children away. Children must never be allowed in the work area. Do not let them handle machines, tools, hoses or extension cords.
5. Store idle equipment. When not in use, tools must be stored in a dry location to inhibit rust. Always lock up tools and keep out of reach of children and other untrained persons. Switch off all unused electrical tools when stored. Tools are dangerous in the hands of untrained users.
6. Always wear approved eye protection when using tools. If raising dust, wear a suitable mask.
7. Work Safe. When wearing gloves to operate the tool, make sure that the gloves do not interfere with operating the Trigger. Test your gloves with the Trigger before attaching the unit to an air source. Keep your finger away from the Trigger until you are ready to work. Never start the tool unless you have a firm grip with both hands and you are positioned at your work piece or area. Before using the tool, know what is directly underneath the work area or work piece. The tool can quickly penetrate material. If working directly on the ground, make sure you are not directly above shallow cables, lines, or pipes. Keep your limbs and body clear of the tool. If an accessory or attachment breaks off, the tool tends to surge forward suddenly. Operate tool a safe distance from yourself and others in the work area. Make sure the immediate area is clear of other people or animals. Spectators must stay at a safe distance. Never point the tool or the air hose (not included) at anyone. Keep proper footing and balance at all times. Do not reach over or across running machines, hoses, etc.
8. Do not operate any tool if under the influence of alcohol or drugs. Read warning labels on prescriptions to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not operate any tool.
9. Be sure air is in OFF position when connecting tool to air supply.
10. Use only those accessories that are designed for use with tools. For example, with impact wrenches do not use ordinary sockets. Use impact sockets for all air tools.
11. Be sure to disconnect tool from air supply before changing accessories, performing service on tool and when not in use.
12. Follow air source manufacturers' directions for connection of regulators, filters, and other accessories to air source. Do not install quick couplers directly on tool as they put unnecessary strain on the air inlet threads possibly causing them to wear out prematurely. Instead, install them on a short length of air hose attached to the tool.
13. Check for damaged parts. Before using any tool, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment and binding of moving parts; any broken parts or mounting fixtures; and any other condition that may affect proper operation. Any part that is damaged should be properly repaired or replaced by a qualified technician.

## IMPORTANT SAFETY INFORMATION

14. Maintenance. For your safety, maintenance should be performed regularly by a qualified technician using original PERFORMANCE TOOLS® replacement parts. Failure to do so can lead to accidents for the operator. Use of any other parts will void the warranty. Only use accessories intended for use with this tool. Approved accessories are available from Performance Tool®. Use only accessories that are recommended by the manufacturer for your model. Accessories that may be suitable for one tool may become hazardous when used on another tool.

**WARNING:** Repetitive motions or exposure to vibration may be harmful to your hands and arms.

**WARNING:** This product and its packaging contain a chemical known to the State of California to cause cancer, birth defects, or other reproductive harm.

**WARNING:** The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator. Read and understand all of the instructions provided in the instruction manual of this product, as well as, any other tool (s) used with this product.

## ASSEMBLY / INSTALLATION

1. You will need to prepare the Die Grinder hose to connect to the oiler and the oiler to connect to the included Quick-disconnect Coupler Plug. Wrap the end of the Die Grinder hose and the male end of the oiler with pipe thread sealer tape.
  2. Connect the oiler to the inlet on the die grinder hose, then connect the female quick connect plug to the oiler. Insert the plug into a Quick-Disconnect coupler on a 3/8" ID Air Source Hose.
- Note:** If you are not using an automatic oiler system, before operation, add a few drops of Pneumatic Tool Oil to the airline connection. Add a few drops more after each hour of continual use.
3. Set the air pressure on your compressor to 90 PSI. Do not exceed the recommended air pressure of 90 PSI.
  4. Check the air connection for leaks. Once you are satisfied there are no leaks, turn off the air compressor and disconnect the tool.

## AIR SOURCE

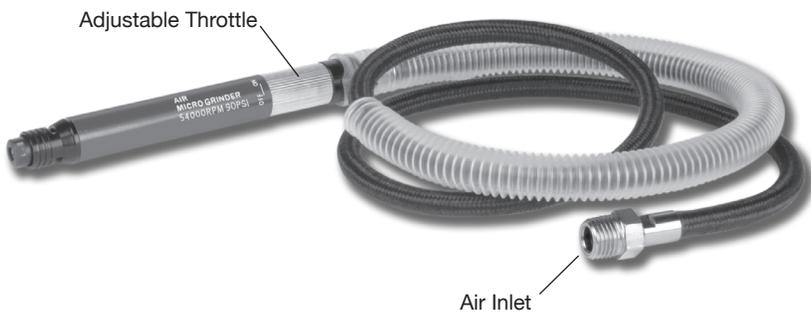
Clean air of correct air pressure is recommended for the power supply for this tool. A maximum of 90 PSI at the tool is recommended for most air tools of this class. Check specifications section for recommended pressure. (Depending on length of air hose and other circumstances, air pressure at compressor may need to be increased to 100 PSI to ensure 90 PSI at the tool.)

Water in the air hose and compressor tank contributes to reduced performance and damage of the air tool. Drain the air tank and filters before each use and as necessary to keep the air supply dry.

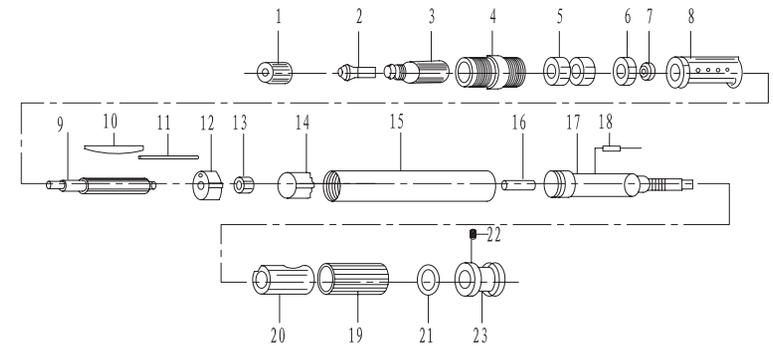
Hose length over 25' causes loss in line pressure. Increase hose I.D. or increase compressor pressure to compensate for the pressure loss. Use an in-line pressure regulator with gauge if air inlet pressure is critical.

## OPERATION

1. Do not put additional pressure on the machine. This will only reduce sanding efficiency and shorten the tool's life. We recommend the air pressure of this grinder at 90 PSI.
2. When using the grinder be careful not to exert excessive force. Too much force could be hazardous if it caused the cutting tool spindle to bend or break.
3. DO NOT allow tool to free run for an extended period of time as this will shorten its life.
4. Lubricate the air motor with a good grade of air tool oil and drain the tank daily. 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.
  - Never install a carbide tipped or steel circular saw blade for use on this Die Grinder.
  - Never install a wood carving blade, carving disc with chain saw cutters, or a cutting carving disc on this Die Grinder.
  - All accessories must be rated for at least 54,000 RPM. Wheels and other accessories running over rated speed can fly apart and cause injury.
  - Use eye and ear protection. Always wear ANSI approved impact safety goggles.
  - Wear a full face shield if you are producing metal filings or wood chips. Wear an ANSI approved dust mask or respirator when working around metal, wood, and chemical dusts and mists.
5. **WARNING:** Some dust created by power sanding, sawing, grinding, drilling, and other construction activities, contain chemicals known [to the State of California] to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:
  1. Lead from lead-based paints;
  2. Crystalline silica from bricks and cement or other masonry products;
  3. Arsenic and chromium from chemically treated lumber.
6. 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.



## PARTS LIST

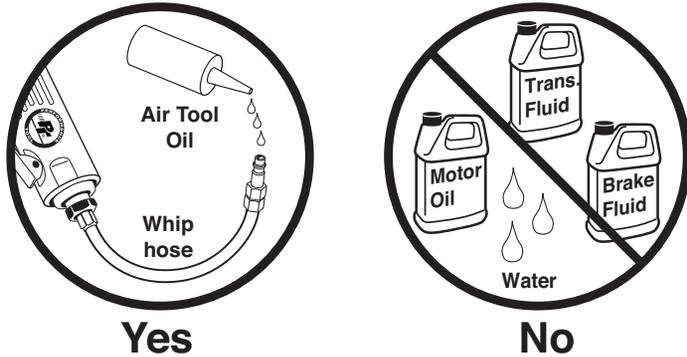


INDEX	DESCRIPTION	QTY	INDEX	DESCRIPTION	QTY
1	Clamping nut	1	13	Ball bearing	1
2	Collet	1	14	Intake plate	1
3	Front cover	1	15	Sleeve	1
4	Collet foundation	1	16	Intake tube	1
5	Ball bearing	1	17	Hose Plug	1
6	Spacer	1	18	Pin	1
7	Lateral disc	1	19	Sliding knob	1
8	Cylinder	1	20	Bearing bushing	1
9	Rotor	1	21	O-ring	1
10	Rotor blade	4	22	Screw	1
11	Pin	1	23	Read end holder	1
12	Bearing plate	1			

## LUBRICATION & MAINTENANCE

**Oil tool before each use.** 4 to 5 drops of a good grade Air Tool Oil placed in the air inlet is sufficient. Use proper air pressure and CFM rating listed for this tool.

**Drain water from hoses and compressor tank.** Water in the air supply line will cause gumming and loss of power. Clean the air filter on the supply line and flush the tool with gum solvent or a 50/50 mix of air tool oil and kerosene. It may be necessary to disassemble the tool to properly clean and re-lubricate.



## TROUBLESHOOTING

The following form lists the common operating system with problem and solutions. Please read the form carefully and follow it. Always be sure you are using a tool suited for the torque requirements of the job at hand.

**WARNING:** If any of the following symptoms appears during your operating, stop using the tool immediately, or serious personal injury could result. Only a qualified persons or an authorized service center can perform repairs or replacement of tool.

Disconnect tool from air supply before attempting repair or adjustment. When replacing O-rings or Cylinder, lubricate with air tool oil before assembly.

Problem	Probable Cause	Solution
<b>Tool runs at normal speed but loses power under load:</b>	<ul style="list-style-type: none"> <li>• Motor parts worn</li> <li>• Cam/clutch worn or sticking due to lack of lubricant</li> <li>• Insufficient air supply</li> </ul>	<ul style="list-style-type: none"> <li>• Lubricating clutch housing.</li> <li>• Check for excess clutch oil. Clutch cases need only be half full. Overfilling can cause drag on high speed clutch parts, i.e. a typical oiled/lubricated wrench requires 1/2 ounce of oil.</li> <li>• NOTE: Heat usually indicates insufficient grease in chamber. Severe operating conditions may require more frequent lubrication.</li> <li>• Increase line pressure, Make sure compressor matches tool's air pressure and consumption needs.</li> </ul>

## TROUBLESHOOTING

Problem	Probable Cause	Solution
<b>Tool runs slowly. Air flows slightly from exhaust:</b>	<ul style="list-style-type: none"> <li>• Motor parts jammed with dirt particles</li> <li>• Power regulator in closed position</li> <li>• Air flow blocked by dirt</li> <li>• Air leakage</li> </ul>	<ul style="list-style-type: none"> <li>• Check air inlet filter for blockage.</li> <li>• Flush and [our air tool lubricating oil into air inlet as per instructions.</li> <li>• Operate tool in short bursts quickly reversing rotation back and forth where applicable.</li> <li>• Drain air tank and supply line</li> <li>• Use Teflon tape at all fittings and joints. Check tool for worn or damaged O-rings &amp; seals.</li> </ul>
<b>Tools will not run. Air flows freely from exhaust:</b>	<ul style="list-style-type: none"> <li>• One or more motor vanes stuck due to material build up.</li> <li>• Worn/damaged wear &amp; tear parts.</li> </ul>	<ul style="list-style-type: none"> <li>• Pour air tool lubricating tool into air inlet.</li> <li>• Operate tool in short bursts of forward and/or reverse rotation where applicable.</li> <li>• Tap motor housing gently with plastic mallet.</li> <li>• Disconnect supply. Free motor by rotating drive shank manually where applicable</li> <li>• Replace as necessary.</li> </ul>
<b>Tool will not shut off:</b>	<ul style="list-style-type: none"> <li>• "O" rings throttle valve dislodged from seat inlet</li> </ul>	<ul style="list-style-type: none"> <li>• Replace "O" ring.</li> </ul>

**Note:** Repairs should be carried out by a qualified person.