

# **.4 hp Vacuum Die Grinder**

## **Trimmable Shroud/Right Angle/Rear Exhaust**

Parts Page Reorder No. PD09•45  
Effective October, 2009

### **Air Tool Manual – Safety, Operation and Maintenance**

**SAVE THIS DOCUMENT, EDUCATE ALL PERSONNEL**

#### **Models:**

**56715 – 12,000 RPM**  
– 1/4" & 6 mm Collet

**56719 – 20,000 RPM**  
– 1/4" & 6 mm Collet



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## **! WARNING**

Read and understand this tool manual before operating your air tool. Follow all safety rules for the protection of operating personnel as well as adjacent areas. Always operate, inspect and maintain this tool in accordance with the American National Safety Institute (ANSI) Safety Code for Portable Air Tools – B186.1. For additional safety information, refer to Safety Requirements for the Use, Care and Protection of Abrasive Wheels – ANSI B7.1, Code of Federal Regulation – CFR 29 Part 1910, European Committee for Standards (EN) Hand Held Non-Electric Power Tools – Safety Requirements and applicable State and Local Regulations.

## **SAFETY LEGEND**



### **! WARNING**

Read and understand tool manual before work starts to reduce risk of injury to operator, visitors, and tool.

### **! WARNING**

Practice safety requirements. Work alert, have proper attire, and do not operate tools under the influence of alcohol or drugs.



### **! WARNING**

Eye protection must be worn at all times, eye protection to conform to ANSI Z87.1.

### **! WARNING**

Ear protection to be worn when exposure to sound, exceeds the limits of applicable Federal, State or local statutes, ordinances and/or regulations.



### **! WARNING**

Respiratory protection to be used when exposed to contaminants that exceed the applicable threshold limit values required by law.

### **! WARNING**

Air line hazard, pressurized supply lines and flexible hoses can cause serious injury. Do not use damaged, frayed or deteriorated air hoses and fittings.



### **! WARNING**

Some dust created by sanding, grinding, drilling, and other construction activities contain 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
- 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.

## **SAFETY INSTRUCTIONS**

Carefully Read all instructions before operating or servicing any Dynabrade® Abrasive Power Tool. Products offered by Dynabrade are not to be modified, converted or otherwise altered from the original design without expressed written consent from Dynabrade, Inc.

**Tool Intent:** .4 hp Vacuum Die Grinder is ideal for deburring, deflashing, surface preparation, cleaning and finishing using the proper abrasive stones, abrasive mounted wheels and points, molded abrasives, and carbide burrs. An appropriate external vacuum source is required that is suitable for material being processed.

**Do Not use tool for anything other than its intended applications.**

**This power tool is not intended for use in potentially explosive atmospheres and is not insulated against contact with electrical power.**

**Training:** Proper care, maintenance, and storage of your air tools will maximize their performance.

- Employer's Responsibility – Provide .4 hp Vacuum Die Grinder operators with safety instructions and training for safe use of tools and accessories.

(continued on next page)

## SAFETY INSTRUCTIONS (Continued)

### Accessory Selection:

- Abrasive/accessory RPM (speed) rating MUST be approved for AT LEAST the tool RPM rating.
- Before mounting an accessory, visually inspect for defects. Do not use defective accessories.
- Use only accessories of the correct shaft size for the collet (example: 1/4" shaft = 1/4" collet).
- Use only recommended accessories. Reference Dynabrade catalog and this tool manual.
- Follow tool specifications before choosing size and type of accessory.
- Only use recommended fittings and air line sizes. Air supply hoses and air hose accessories must have a minimum working pressure of 150 PSIG (10 Bars) or 150 percent of the maximum pressure produced in the system, whichever is higher. (See tool Machine Specifications table.)

## OPERATING INSTRUCTIONS

**Warning:** Always wear personal protective equipment. Operator of tool is responsible for following: accepted eye, face, respiratory, hearing and body protection.

**Caution:** Hand, wrist and arm injury may result from repetitive work, motion and overexposure to vibration.

- Keep hand and clothing away from working end of the air tool.
- Working end of tool has a potential of cutting and severing.

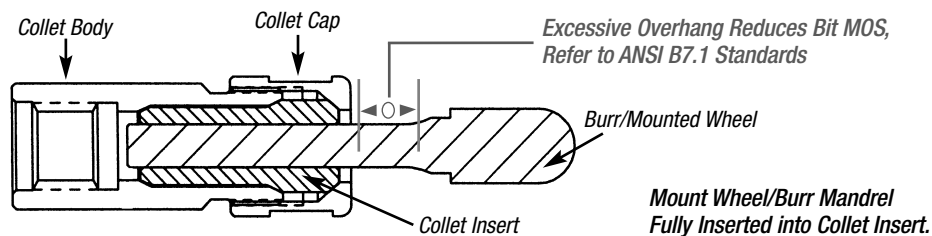
**Operation:** Be sure that any loose clothing, hair and all jewelry is properly restrained.

- Secure inlet bushing on air tool with a wrench before attempting to install the air fitting to avoid damaging housing assembly.
- BEFORE MOUNTING AN ACCESSORY, after all tool repairs and whenever a .4hp Vacuum Die Grinder is issued for use, check tool RPM (speed) with tachometer with air pressure set at 90 PSIG while the tool is running. If tool is operating at a higher speed than the RPM marked on the tool housing, or operating improperly, the tool must be serviced and corrected before use.
- Before mounting an accessory regularly clean and inspect collet assembly parts for wear or damage. Do Not use worn or damaged components.

**Caution:** Tool RPM must never exceed abrasive/accessory RPM rating. Check accessory manufacturer for details on maximum operating speed or special mounting instructions. Improper mounting of an accessory may cause excessive vibration levels or damage the accessory. Make sure no one is in the unguarded plane of the accessory. Run tool for 1 minute of operating speed in a protected area.

### PROPER MOUNTING PROCEDURE

**Warning:** With Power Source Disconnected from the Tool, Remove Shroud Assembly by Loosening Clamp. Remove/Mount Correctly Rated Accessory. Replace Shroud Assembly and Tighten Clamp.



- Connect air tool to power source. Be careful NOT to depress throttle lever in the process. **Do not expose air tool to inlet pressure above 90 PSIG or (6.2 Bars).**

**Caution:** After installing the accessory, before testing or use and/or after assembling tool, the .4 hp Vacuum Die Grinder must be started at a reduced speed to check for good balance. Gradually increase tool speed. DO NOT USE if tool vibration is excessive. Correct cause, and retest to insure safe operation. Test tool at its free speed (RPM) in a protected area for at least one minute before applying the tool to the work.

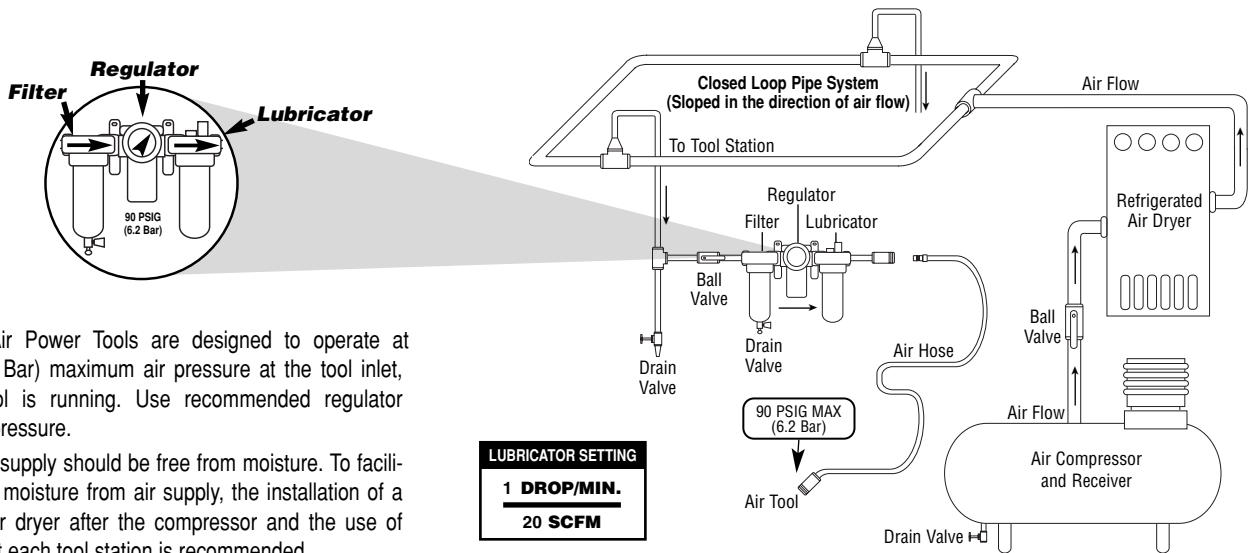
- Release throttle lever when air supply is interrupted.
- Make sure that work area is uncluttered, and visitors are at a safe range from the tools and debris.
- Air tools are not intended for use in explosive atmospheres and are not insulated for contact with electric power sources.
- Use a vise or clamping device to hold work piece firmly in place.
- Do not apply excessive force on tool or apply "rough" treatment to it.
- Always work with a firm footing, posture and proper lighting.
- Ensure that sparks and debris resulting from work does not create a hazard.
- This tool is rear exhaust. Tool exhaust may contain lubricants, vane material, bearing grease, and other materials flushed thru the tool.

**Warning:** Grinding certain materials can create explosive dust. It is the employers responsibility to notify the user of acceptable dust levels.

- Grinding can cause sparks which can cause fires or explosions. It is the users responsibility to make sure the work area is free of flammable materials.
- DO NOT USE cut-off wheels or router bits on this tool.
- Always use dust extraction or suppression systems and personal protective equipment which are suitable for the materials being processed.
- Trimming shroud: vacuum shroud sleeve maybe cut/trimmed or removed to suit application.

**Report to your supervisor any condition of the tool, accessories, or operation you consider unsafe.**

# Air System



- Dynabrade Air Power Tools are designed to operate at 90 PSIG (6.2 Bar) maximum air pressure at the tool inlet, when the tool is running. Use recommended regulator to control air pressure.
- Ideally the air supply should be free from moisture. To facilitate removing moisture from air supply, the installation of a refrigerated air dryer after the compressor and the use of drain valves at each tool station is recommended.

## Maintenance Instructions

**Important:** To keep tool safe a Preventative Maintenance Program is recommended whenever portable power tools are used. The program should include inspection of air supply lines, air line pressure, proper lubrication and repair of tools. Refer to ANSI B186.1 for additional maintenance information.

- Use only genuine Dynabrade replacement parts to ensure quality. To order replacement parts, specify **Model#**, **Serial#** and **RPM** of your air tool.
- It is strongly recommended that all Dynabrade rotary vane air tools be used with a Filter-Regulator-Lubricator to minimize the possibility of misuse due to unclean air, wet air or insufficient lubrication. Dynabrade recommends the following: **10681** Air Line Filter-Regulator-Lubricator — Provides accurate air pressure regulation, two-stage filtration of water contaminants and micro-mist lubrication of pneumatic components. Delivers up to 55 SCFM/1,558 LPM @ 145 PSIG/9.7 Bar (Max. Air Temperature of 140°F/60°C) **Note:** Two (2) 3/8" NPT Reducer Bushings are included.
- Dynabrade recommends one drop of air lube per minute for each 20 SCFM (example: if the tool specification states 40 SCFM, set the drip rate on the filter-lubricator to 2 drops per minute). Dynabrade Air Lube (P/N **95842**: 1 pt 473 ml) is recommended.
- **Lubricate wick system through the angle gear oil fitting with 2-3 plunges for every 24 hours of use, to achieve maximum gear life.**  
**Important:** Use only the recommended angle gear oil for the wick system. Do not contaminate the wick with any other oil or grease product. (Order **95848** Gear Oil and **95541** Gun)

### Routine Preventative Maintenance:

- Check free speed of tool regularly using a tachometer without the abrasive accessory mounted. After all tool repairs and whenever a .4 hp Vacuum Die Grinder is issued for use, check tool RPM (speed) with tachometer with air pressure set at 90 PSIG while the tool is running. If tool is operating at a higher speed than the RPM marked on the tool housing, operating improperly or demonstrates unusual vibration, the tool must be serviced and corrected before use.
- Inspect accessories before mounting. Do not mount accessories that are damaged or nicked.
- Check accessory - speed rating. Rating on accessory must be greater than the tool speed marked on the housing.
- If accessory breakage occurs, investigate to determine the cause and correct before issuing tool for work.
- Mineral spirits are recommended when cleaning the tool and parts. Do not clean tool or parts with any solvents or oils containing acids, esters, ketones, chlorinated hydrocarbons or nitro carbons.
- **DO NOT** clean or maintain tools with chemicals that have a low flash point (example: WD-40®).
- A Motor Tune-Up Kit (P/N **96179**) is available which includes high wear and medium wear motor parts.
- Air tool markings must be kept legible at all times, if not, reorder housing and replace. User is responsible for maintaining specification information i.e.: Model #, S/N, and RPM. (See Assembly Breakdown)
- Blow air supply hose out prior to initial use.
- Visually inspect air hoses and fittings for frays, visible damage and signs of deterioration. Replace damaged or worn components.
- Refer to Dynabrade's Warning/Safety Operating Instructions Tag (Reorder No. **95903**) for safety information.

After maintenance is performed on tool, add a few drops of Dynabrade Air Lube (P/N **95842**) to the air line and start the tool a few times to lubricate air motor. Check for tool vibration before mounting abrasive wheel accessory.

### Handling and Storage:

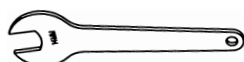
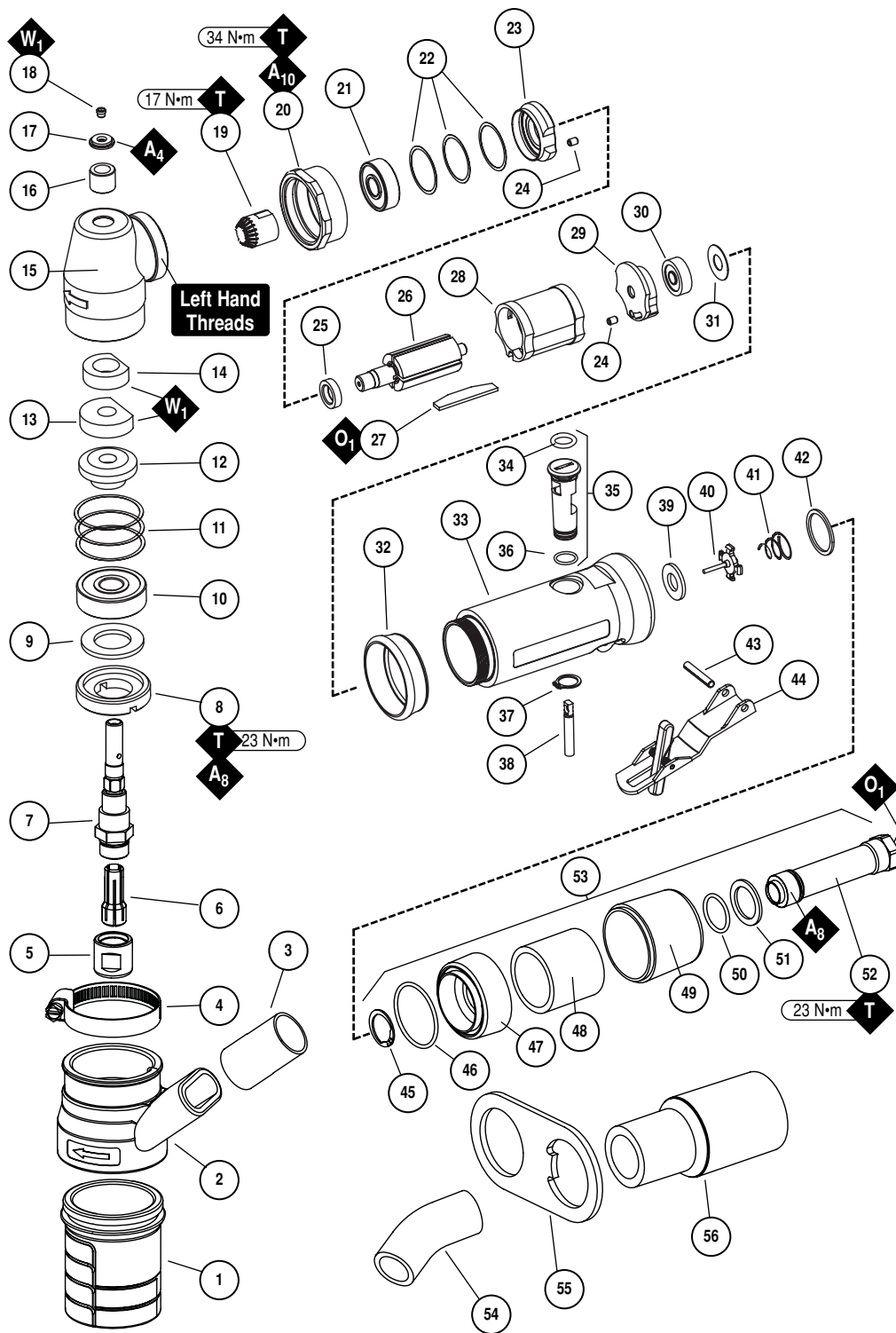
- Use of tool rests, hangers and/or balancers is recommended.
- Protect tool inlet from debris (see Notice on Page 6).
- **DO NOT** carry tool by air hose or near the tool throttle lever.
- Protect tool from exposure to water, solvents, high humidity, freezing temperature and extreme temperature changes.
- **DO NOT USE** accessories that have been dropped or show signs of cracks, nicks or other defects.
- Store accessories in protective racks or compartments to prevent damage.

**Models:**  
**56715, 56719**

# **.4hp Vacuum Die Grinder Complete Assembly Diagram**

## **Index Key**

No.	Part #	Description
1	02286	Vacuum Sleeve
2	02285	Shroud Base
3	97180	Hose Cuff
4	97326	Hose Clamp
5	01484	Collet Cap
6	01485	1/4" Collet Insert
	01479	6 mm Collet Insert
7	02032	Spindle
8	02035	Lock Nut
9	01486	Felt Silencer
10	54520	Bearing
11	Shim	
	97118	.127 in. THK.
	97116	.025 in. THK.
	97117	.05 in. THK.
12	Gear	
	02623	Model - 56715
	02599	Model - 56719
13	Wick - Bottom	
	02042	Model - 56715
	02044	Model - 56719
14	Wick - Top	
	02043	Model - 56715
	02045	Model - 56719
15	02031	Housing
16	02033	Needle Bearing
17	02041	Plate
18	01041	Fitting
19	Pinion	
	02624	Model - 56715
	02600	Model - 56719
20	01461	Lock Ring
21	02649	Bearing
22	54529	Shim Pack (3/pkg.)
23	01478	Front Bearing Plate
24	50767	Pin (2)
25	01479	Rotor Spacer
26	02037	Rotor
27	01480	Vane (4/pkg.)
28	01476	Cylinder
29	02676	Rear Bearing Plate
30	02696	Bearing
31	02679	Shield
32	01547	Collar
33	Housing	
	06035	Model - 56715
	06037	Model - 56719
34	01024	O-Ring
35	01469	Speed Regulator
36	95730	O-Ring
37	95558	Retaining Ring
38	01449	Valve Stem
39	01464	Seal
40	01472	Tip Valve
41	01468	Spring
42	01564	Air Control Ring
43	12132	Pin
44	01462	Safety Throttle Lever
45	95711	Retaining Ring
46	95438	O-Ring
47	94521	Muffler Base
48	94528	Felt Muffler
49	94522	Muffler Cap
50	95375	O-Ring
51	94526	Spacer
52	94523	Inlet Adapter
53	94519	Muffler Assembly
54	31940	Hose
55	97161	Vacuum Hose Retainer
56	31907	Vacuum Swivel Cuff
		1-1/4" I.D. Threaded



95262 - 14mm open-end

	KEY
<b>O</b>	Oil: O <sub>1</sub> = Air Lube
<b>A</b>	Adhesive: A <sub>4</sub> = Loctite #680 A <sub>8</sub> = Loctite #567 A <sub>10</sub> = Loctite #243
<b>T</b>	Torque: N·m x 8.85 = In. - lbs.
<b>W</b>	Wicking: W <sub>1</sub> = Gear Oil

## **Disassembly/Assembly Instructions - .4hp/Vacuum Die Grinders**

Important: The Dynabrade Pneumatic Power Tool Lifetime Warranty Policy does NOT cover normally wearable parts and products. Before servicing this tool please contact Dynabrade Inc. or a Dynabrade Subsidiary for information regarding the Dynabrade Pneumatic Power Tool Lifetime Warranty Policy.

Notice: Special repair tooling referred to in these instructions can be ordered from Dynabrade. (See Page 8)

### ***Disconnect the die grinder from the air supply.***

Important: To prevent damage to the composite housing. Hold the 94523 Inlet Adapter securely with a wrench when removing the air fitting.

#### **Angle Housing Disassembly:**

1. Position the 52296 Repair Collar around the valve housing and secure the tool in a vise with the collet pointing up.
2. Loosen the clamp and remove the shroud.
3. Loosen the collet cap and remove the insert tool, cap and insert.
4. Use the 50971 Lock Ring Tool to remove the 02035 Lock Nut. Turn it counterclockwise.
5. Grasp the spindle and pull the 54520 Bearing and gear out of the angle housing.
6. Remove shims from housing if necessary.
7. Use the 96346 Bearing Separator and 96232 Arbor Press (#2) to remove the bearing and gear from the spindle.
8. If necessary, use a 5/16" dia. flat end drive punch as a press tool and the arbor press to remove the 02041 Plate, 01041 Gear Oil Fitting and the 02033 Needle Bearing.

**Angle Housing Disassembly Complete.**

#### **Motor Disassembly:**

1. Use the 52296 Repair Collar to secure the valve housing in a vise. Position the tool with the angle housing pointing up.
2. Use a 34 mm or an adjustable wrench to remove the 01461 Lock Ring. Turn it clockwise.
3. Pull the motor assembly out of the valve housing.
4. Fasten the 96346 Bearing Separator around the portion of the 01476 Cylinder that is closest to the 02676 Rear Bearing Plate.
5. Place the bearing separator on the table of the arbor press with the pinion gear pointing down.
6. Use a 3/16" dia. flat end drive punch as a press tool to push the rotor out of the 02696 Bearing. Remove the cylinder and vanes.
7. Use the 96210 Bearing Removal Tool and the arbor press to remove the 02696 Bearing from the 02676 Rear Bearing Plate.
8. Use a vise with bronze or aluminum jaws to secure the body of the rotor. Position the rotor with the pinion gear pointing up.
9. Use a wrench to remove the pinion gear from the rotor. Turn it counterclockwise.
10. Push the 02649 Bearing out of the front bearing plate and remove the shims.
11. Remove the 01479 Spacer from the rotor.

**Motor Disassembly Complete.**

#### **Valve and Muffler Disassembly:**

1. Position the 52296 Repair Collar around the valve housing and secure the tool in a vise so that the 94523 Inlet Adapter is pointing up.
2. Use a wrench to hold the inlet adapter stationary when removing the air fitting.
3. Remove the 94523 Inlet Adapter. Turn it counterclockwise.
4. Use the exploded view of the 94519 Muffler Assembly in this tool manual for the order of disassembly and part number identification. Be careful; do not lose the air control ring.
5. Use needle nose pliers to remove the 01468 Spring and the 01472 Tip Valve. Use a small screwdriver to remove the 01464 Seal.
6. Position the valve housing so that the 12132 Pin, 01462 Safety Throttle Lever, and 01449 Valve Stem can be removed.
7. Use retaining ring pliers to remove the 95558 Retaining Ring and then push the 01469 Speed Regulator out of the valve housing.

**Valve and Muffler Disassembly Complete.**

### ***Important: Clean and inspect parts for wear or damage before assembling.***

#### **Valve and Muffler Assembly:**

1. Install the 01469 Speed Regulator Assembly into the valve housing and secure it with the 95558 Retaining Ring.
2. Use the 52296 Repair Collar to secure the valve housing in a vise with the air inlet pointing up.
3. Insert the 01449 Valve Stem into the speed regulator so that the hole in the valve stem aligns with the air inlet hole in the valve housing.
4. Install the 01464 Seal so that it lays flat. Use needle nose pliers to grasp the nylon portion of the 01472 Tip Valve and insert the metal pin into the hole of the 01449 Valve Stem.
5. Install the 01468 Spring with the small end against the back of the tip valve.
6. Refer to the parts breakdown for part identification and the sequence of assembly for the muffler. Apply a small amount of Loctite #567 (or equivalent) to the male threads of the inlet adapter and install the muffler assembly. Tighten the inlet adapter. (Torque to 23 N•m/200 in. lbs.)

**Valve and Muffler Assembly Complete.**

#### **Motor Assembly:**

1. Secure the body of the rotor in a vise with bronze or aluminum jaws with the threaded end pointing up.
2. Slip the 01479 Spacer onto the 02037 Rotor.
3. Select .003" (.08mm) thick shims from the 54529 Shim Pack and place these into the 01478 Front Bearing Plate.
4. Install the 02649 Bearing into the front bearing plate and slip the bearing/plate assembly onto the rotor.
5. Install the pinion onto the rotor making it hand tight.
6. Check the clearance between the rotor and the bearing plate with a .001" (0.03 mm) thick feeler gauge. Clearance should be .001" to .0015" (0.03-0.04mm). If necessary readjust clearance by repeating steps 3-5 with different shim thickness.
7. Once the proper rotor/plate clearance is achieved, wrench-tighten the pinion. (Torque to 17N•m/150 in. lbs.)
8. Apply the 95842 Dynabrade Air Lube 10W/NR (or equivalent) to the 01480 Vanes and install them into the rotor.
9. Use the 96242 Bearing Press Tool so that it pushes against the outside race of the 02696 Bearing and install it into the 02676 Rear Bearing Plate with the arbor press.
10. Place the pinion on the tool plate of the arbor press with the rear portion of the rotor pointing up.

(continued on next page.)

## Disassembly/Assembly Instructions - .4hp/Vacuum Die Grinders (cont.)

11. Install the **01476** Cylinder so that it rests against the **01478** Bearing Plate. Note: Make sure that the air inlet passage of the cylinder properly aligns with the air inlet passage in the **02676** Rear Bearing Plate.
12. Use the **96242** Bearing Press Tool so that it pushes against the inside race of the **02696** Bearing and install the rear bearing/plate assembly onto the rotor with the arbor press. **Important:** Carefully press the rear bearing/plate assembly onto the rotor until it just touches the **01476** Cylinder. A "snug" fit should exist between the bearing plates and cylinder. If it is too tight the rotor will not turn freely and cause damage to the bearings. If it is too loose the proper bearing preload will not be achieved.
13. Apply a small amount of white grease to the seal of the **02696** Rear Bearing and place the **02679** Shield against the seal of the bearing.
14. Install the motor assembly into the valve housing so that the air passage of the rear bearing plate aligns with the air passage opening inside the valve housing.
15. Place the **52296** Repair Collar around the valve housing and position it in a vise with the pinion gear pointing up. Apply a small amount of Loctite #243 (or equivalent) to the threads of the valve housing and the **02031** Housing. Install the **01461** Lock Ring onto the **02031** Housing. When connecting these parts, be aware of the right and left hand threads. Connect the **01461** Lock Ring and angle housing to the valve housing. Use a 34mm (or an adjustable wrench) to tighten the lock ring and angle housing to the valve housing. (Torque to 34 N•m/300 in. lbs.) SEE: Throttle Positioning Procedure for information on proper throttle lever positioning. Note Steps 4-6.

**Motor Assembly Complete.**

### Angle Housing Assembly:

1. Press the **01041** Gear Oil Fitting into the **02041** Plate.
2. Carefully apply two drops of Loctite #680 (or equivalent) to the recessed area of the **02031** Housing and press the **02041** Plate along with gear oil fitting into the housing. (Allow 30 minutes for the adhesive to cure.)
3. Press the **02033** Needle Bearing into the housing.
4. Position the **96239** Bearing Press Tool so that it rests against the inside race of the **54520** Bearing and press the bearing onto the spindle.
5. Align the hex shape of the gear with the hex shape of the spindle and press the gear onto the spindle.
6. Apply a small amount of Loctite #243 (or equivalent) to the mating threads of the **02031** Housing. When connecting these parts be aware of the right and left hand threads.
7. Place the **52296** Repair Collar around the valve housing and position the tool in a vise with the angle housing pointing up.
8. Use a 34 mm (or adjustable wrench) to tighten the **01461** Lock Ring while holding the angle housing stationary with one hand. **Note:** The throttle lever can be located to any 360° position desired. Allow for additional rotation when tightening the lock ring. (Torque to 34 N•m/300 in. lbs.)
9. Position the tool in the vise with the opening for the **02035** Lock Nut facing up.
10. Soak the wicks in the **95848** Gear Oil before installing them into the **02031** Housing. Install the top wick first followed by the bottom wick. Position truncated side of each wick toward the end of the pinion gear.
11. Install the **02032** Spindle into the angle housing. Apply a small amount of downward force on the spindle while rotating it back and forth checking for the proper backlash or clearance between the gears. A small amount of backlash or clearance should exist between the bevel and pinion gear teeth. If the gear fit is tight, add shims as necessary. Place the required thickness of shims between the outside race of the **54520** Bearing and the bearing seat in the housing.
12. Place (1) **01486** Felt Silencer into the **02035** Lock Nut. Apply a small amount of Loctite #567 (or equivalent) to the threads of the **02035** Lock Nut. Use the **50971** Lock Ring Wrench to install the lock nut onto the **02031** Housing. (Torque to 23 N•m/200 in. lbs.)
13. Place the **52742** Shroud onto housing and secure it with the **97326** Hose Clamp.

**Angle Housing Assembly Complete.**

### Throttle Positioning Procedure:

**IMPORTANT:** Perform this procedure carefully. Do not entirely separate the **02031** Housing from the valve housing. Loosen the **01461** Lock Ring only enough to make the throttle lever adjustment.

1. Place the **52296** Repair Collar around the valve housing and secure it in a vise with the **02031** Housing pointing up.
2. Slip the **01547** Collar down onto the valve housing to expose the **01461** Lock Ring.
3. With a firm hold on the **02031** Housing use a 34 mm (or an adjustable wrench) to turn the lock ring clockwise to loosen the **02031** Housing from the valve housing.
4. Place the throttle lever in the desired position. **Note:** Allow for additional rotation of the **02031** Housing as the **01461** Lock Ring is tightened.
5. Grasp the **02031** Housing firmly to limit rotation. Use a 34 mm (or an adjustable wrench) to tighten the **01461** Lock Ring. (Torque to 34 N•m/300 in. lbs.)
6. Slip the **01547** Collar back over the **01461** Lock Ring.

**Throttle Positioning Procedure Complete. Tool Assembly Complete.**

**Allow 30 minutes for adhesives to cure before operating tool.**

**Important:** To operate the tool, place 2-3 drops of Dynabrade Air Lube (P/N 95842) directly into air inlet with throttle lever depressed. Connect the tool to the air supply and operate for 30 seconds to allow the lubricant to permeate the motor. Run the tool @ 90 PSIG (6.2 Bar) operating air inlet pressure. Use a tachometer to check the spindle speed (RPM). If the spindle speed exceeds the RPM that is marked on the motor housing, the tool should be serviced to correct the over speed condition before the tool is put into use.

### Lifetime Warranty

All Dynabrade portable pneumatic power tools are rigorously inspected and performance tested in our factory before shipping to our customers. If a Dynabrade tool develops a performance problem and an inherent defect is found during normal use and service, Dynabrade will warrant this tool against defects in workmanship and materials for the lifetime of the tool. Upon examination and review at our factory, Dynabrade shall confirm that the tool qualifies for warranty status, and will repair or replace the tool at no charge to the customer. Normally wearable parts and products are NOT covered under this warranty. Uncovered items include bearings, contact wheels, rotor blades, regulators, valve stems, levers, shrouds, guards, O-rings, seals, gaskets and other wearable parts. Dynabrade's warranty policy is contingent upon proper use of our tools in accordance with factory recommendations, instructions and safety practices. It shall not apply to equipment that has been subjected to misuse, negligence, accident or tampering in any way so as to affect its normal performance. To activate lifetime warranty, customer must register each tool at [www.dynabrade.com](http://www.dynabrade.com). Dynabrade will not honor lifetime warranty on unregistered tools. A one-year warranty will be honored on all unregistered portable pneumatic power tools. Lifetime warranty applies only to portable pneumatic tools manufactured by Dynabrade, Inc. in the USA. Lifetime warranty applies only to the original tool owner; warranty is non-transferable.

### Notice

All Dynabrade motors use the highest quality parts and metals available and are machined to exacting tolerances. The failure of quality pneumatic motors can most often be traced to an unclean air supply or the lack of lubrication. Air pressure easily forces dirt or water contained in the air supply into motor bearings causing early failure. It often scores the cylinder walls and the rotor blades resulting in limited efficiency and power. Our warranty obligation is contingent upon proper use of our tools and cannot apply to equipment which has been subjected to misuse such as unclean air, wet air or a lack of lubrication during the use of this tool.

# Preventative Maintenance Schedule

For All .4hp Vacuum Die Grinders

This service chart is published as a guide to expectant life of component parts. The replacement levels are based on average tool usage over one year. Dynabrade Inc. considers one year usage to be 1,000 hours.

## Parts Common to all Models:

LEGEND	
<b>T</b>	Part included in 96179 Tune-Up Kit
<b>X</b>	Type of wear, no other comments apply.
<b>L</b>	Easily lost. Care during assembly/disassembly.
<b>D</b>	Easily damaged during assembly/disassembly.
<b>R1</b>	Replace each time tool is disassembled.



96179 – .4hp. Motor Tune-Up Kit

Index #	Part Number	Description	Number Required	High Wear 100%	Medium Wear 70%	Low Wear 30%	Non-Wear 10%
1	02286	Vacuum Sleeve	1				X
2	02285	Shroud Base	1				X
3	97180	Hose Cuff	1				X
4	97326	Hose Clamp	1				X
5	01484	Collet Cap	1				X
6	See Note	Collet Insert	1				X
7	02032	Spindle	1				X
8	02035	Lock Nut	1				X
9	01486	Felt Silencer	5		T		
10	54520	Bearing	1		T		
11	See Note	Shim	1-3		T		
12	See Note	Gear	1			X	
13	See Note	Wick - Bottom	1		T		
14	See Note	Wick - Top	1		T		
15	02031	Housing	1				X
16	02033	Needle Bearing	1				X
17	02041	Plate	1				X
18	01041	Fitting	1				X
19	See Note	Pinion	1			X	
20	01461	Lock Ring	1				X
21	02649	Bearing	1		T		
22	54529	Shim Pack (3/pkg.)	1	T			
23	01478	Front Bearing Plate	1				X
24	50767	Pin	2			X	
25	01479	Rotor Spacer	1				X
26	02037	Rotor	1				X
27	01480	Vane (4/pkg.)	1		T		
28	01476	Cylinder	1			X	
29	02676	Rear Bearing Plate	1				X
30	02696	Bearing	1		T		
31	02679	Shield	1	T			
32	01547	Collar	1			X	
33	See Note	Housing	1				X
34	01024	O-Ring	1			T	
35	01469	Speed Regulator	1			T	
36	95730	O-Ring	1			T	
37	95558	Retaining Ring	1		T		
38	01449	Valve Stem	1		T		
39	01464	Seal	1			T	
40	01468	Tip Valve	1		T		
41	01468	Spring	1			T	
42	01564	Air Control Ring	1				X
43	12132	Pin	1		T		
44	01462	Safety Throttle Lever	1			X	
45	95711	Retaining Ring	1			T	
46	95438	O-Ring	1			T	
47	94521	Muffler Base	1				X
48	94528	Felt Muffler	1	T			
49	94522	Muffler Cap	1				X
50	95375	O-Ring	1			T	
51	94526	Spacer	1				X
52	94523	Inlet Adapter	1				X
53	31940	Hose	1				X
54	97161	Vacuum Hose Retainer	1				X
55	31907	Vacuum Swivel Cuff	1				X

Note: Please see page 4 for specific part number.

## Machine Specifications

Model Number	Motor hp (W)	Motor RPM	Sound Level	Maximum Air Flow SCFM (LPM)	Collet Insert Size	Air Pressure PSIG (Bars)	Weight Pound (kg)	Length Inch (mm)	Height Inch (mm)
56715	.4 (268)	12,000	81 dB(A)	21 (595)	1/4" or 6 mm	90 (6.2)	1.6 (.7)	8.9 (227)	4.9 (125)
56719	.4 (268)	20,000	82 dB(A)	21 (595)	1/4" or 6 mm	90 (6.2)	1.6 (.7)	8.9 (227)	4.9 (125)

Additional Specifications: Air Inlet Thread 1/4" NPT • Hose Size 1/4" or 6 mm

Sound Level is the pressure measurement according to the method outlined in ISO regulation ISO-15744.

## Optional Accessories

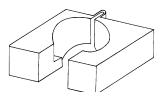
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### Composite Dynaswivel®

- Swivels 360° AT TWO PIVOT POINTS allowing the air hose to drop directly to the floor while providing superb tool handling.

94300 – 1/4" NPT.



### 52296 Repair Collar

- Specially designed collar for use in vise to prevent damage to valve body of tool during disassembly/assembly.



### Dynabrade Air Lube

- Formulated for pneumatic equipment.
- Absorbs up to 10% of its weight in water.
- Prevents rust and formation of sludge.
- Keeps pneumatic tools operating longer with greater power and less down time.

95821: 4 oz. (108 ml)

95842: 1 pt. (473 ml)

95843: 1 gal. (3.8 L)



### 95675 Male Plug

- Provides up to twice the air flow compared to standard plug design.
- Plug has "ported" design to prevent "starving" of the air tool.



### 96179 Motor Tune-Up Kit

- Includes assorted parts to help maintain and repair motor.

### Drop-In Motor

- Allows quick and easy replacement. No motor adjustments needed.

02030 – Model 56715/16

02051 – Model 56719/20



### Carbide Burr Kits

- Includes 12 burs for grinding, deburring and finishing metal.

93351 – 1/8" Kit

93350 – 1/4" Kit

93380 – 6mm Kit



### Collet Inserts

- 01495 – 1/8"
- 01485 – 1/4"
- 01497 – 6 mm
- 01496 – 3 mm



### Dynabrade Angle Gear Oil

- Specifically formulated to saturate wick system in right angle gear head.

95848: 2 oz. tube

95541: Gear Oil Gun

## Reference Contact Information

- American National Standards Institute – ANSI**  
25 West 43rd Street  
Forth Floor  
New York, NY 10036  
Tel: 1 (212) 642-4900  
Fax: 1 (212) 398-0023
- Government Printing Office – GPO**  
Superintendent of Documents  
Attn. New Orders  
P.O. Box 371954  
Pittsburgh, PA 15250-7954  
Tel: 1 (202) 512-1803
- European Committee for Standardization**  
Rue de Stassart 36  
B - 1050 Brussels, Belgium



### Portable Vacuum Systems

- Dynabrade offers a wide assortment of vacuuming options to choose from. To help make your selection please request the most current portable vacuum systems literature from your local representative or by searching our web site.

Visit Our Web Site: [www.dynabrade.com](http://www.dynabrade.com)

Email: [Customer.Service@Dynabrade.com](mailto:Customer.Service@Dynabrade.com)



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