

For Serial No. 08A1000 and Higher

Parts Page Reorder No. PD08•01
Effective January, 2008
Supercedes PD03•38

Models:

- 52196** - 1/4" Die Grinder, 15,000 RPM
- 52590** - 2"-3" Disc Sander, 18,000 RPM (3/8"-24)
- 52595** - 2"-3" Disc Sander, 18,000 RPM (1/4"-20)

.33 Horsepower Tools

Air Motor and Machine Parts

⚠ WARNING

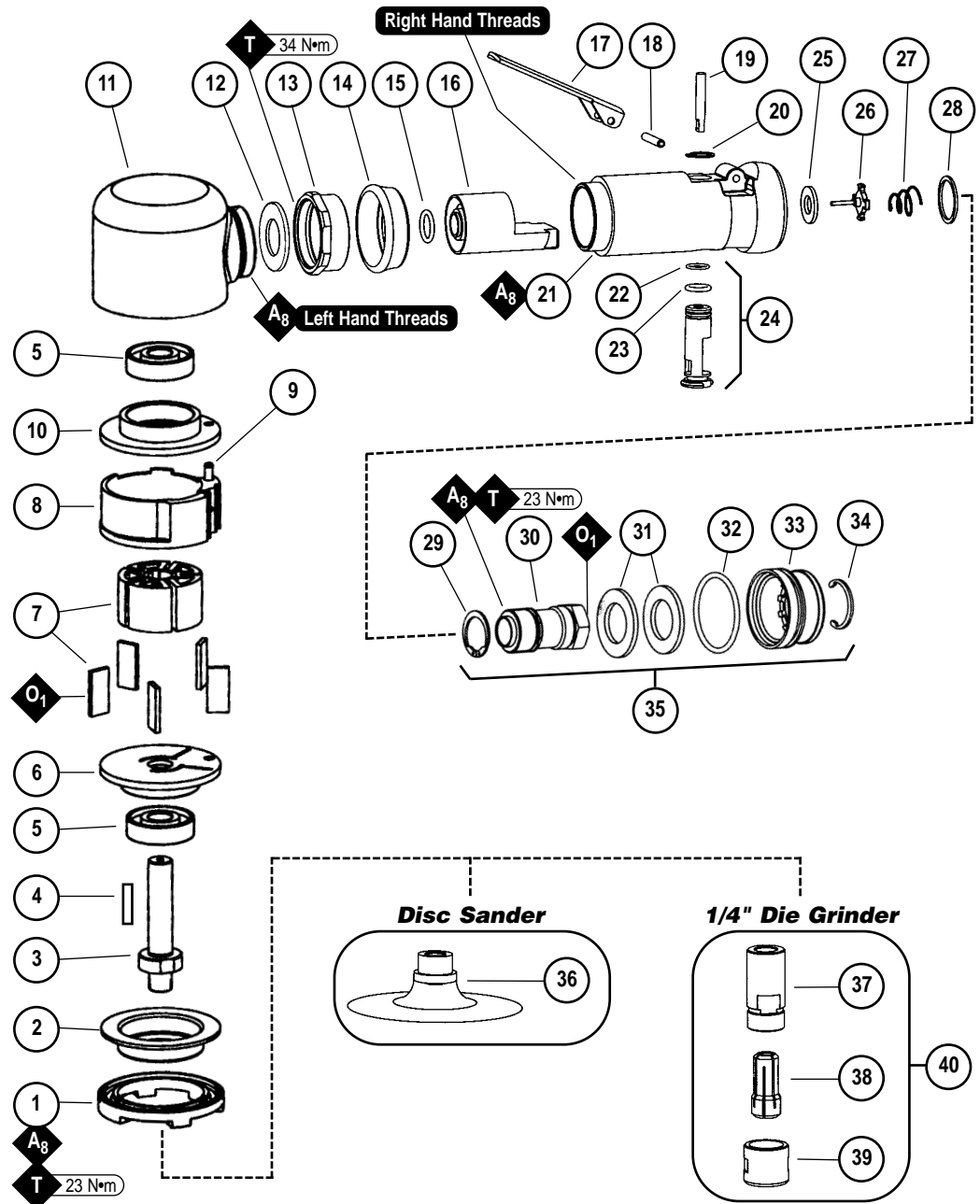
Always operate, inspect and maintain this tool in accordance with the Safety Code for portable air tools (ANSI B186.1) and any other applicable safety codes and regulations. Please refer to Dynabrade's Warning/Safety Operating Instructions for more complete safety information.

KEY

- O** Oil: O₁ = Air Lube
- A** Adhesive: A₈ = Loctite #567
- T** Torque: N•m x 8.85 = In. - lbs.

Index Key

No.	Part #	Description
1	56046	Lock Ring
2	02092	Shield
3	Rotor Shaft	
	54808	Models: 52196, 52590
	52594	Model 52595
4	56047	Shaft Key
5	58368	Bearing (2)
6	54809	Front Bearing Plate
7	57113	Rotor/Blade Set (5)
8	54806	Cylinder Assembly (Incl. 98462 Pin)
9	98462	Pin
10	58359	Rear Bearing Plate
11	02098	Housing
12	01548	Gasket
13	01461	Lock Nut
14	01547	Collar
15	95523	O-Ring
16	01470	Insert Assembly
17	01448	Throttle Lever
	01462	Safety Lock Lever
18	12132	Spring Pin
19	01449	Valve Stem
20	95558	Retaining Ring
21	52606	Housing - 52196
	52607	Housing - 52590
22	95730	O-Ring
23	01024	O-Ring
24	01469	Speed Reg. Assembly
25	01464	Seal
26	01472	Tip Valve
27	01468	Conical Spring
28	01564	Air Control Ring
29	95711	Retaining Ring
30	01578	Inlet Adapter
31	01486	Felt Silencer (2)
32	96065	O-Ring
33	01446	Air Deflector
34	95620	Retaining Ring
35	94537	Muffler Assembly
36	Back-Up Pad	
	51345	Model 52590
	51344	Model 52595
37	50011	Collet Body
38	50013	1/4" Insert
39	50012	Collet Cap
40	50010	Collet Assembly



Important Operating, Maintenance and Safety Instructions

Carefully read all instructions before operating or servicing any Dynabrade® Abrasive Power Tool.

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

Important: All Dynabrade Rotary Vane air tools must be used with a Filter-Regulator-Lubricator to maintain all warranties.

Operating Instructions:

Warning: Eye, face, respiratory, sound and body protection must be worn while operating power tools. Failure to do so may result in serious injury or death. Follow safety procedures posted in workplace.

1. With power source disconnected from tool, securely fasten abrasive/accessory on tool.
2. Install air fitting into inlet bushing of tool. **Important:** Secure inlet bushing of tool with a wrench before attempting to install the air fitting to avoid damaging valve body housing.
3. Connect power source to tool. Be careful not to depress throttle lever in the process.
4. **Warning:** Air tools are not intended for use in explosive atmospheres and are not insulated for contact with electrical power sources. Sanding/Grinding certain materials can create explosive dust. It is the employers responsibility to notify the user of acceptable dust levels. Sanding/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.

Maintenance Instructions:

1. Check tool speed regularly with a tachometer. If tool is operating at a higher speed than the RPM marked on the tool, the tool should be serviced to correct the cause before use.
2. Some silencers on air tools may clog with use. Clean and replace as required.
3. All Dynabrade Rotary Vane air motors should be lubricated. Dynabrade recommends one drop of air lube per minute for each 10 SCFM (example: if the tool specifications state 40 SCFM, set the drip rate of your filter-lubricator at 4 drops per minute). Dynabrade Air Lube (P/N **95842**: 1 pt. 473 ml) is recommended.
4. 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: **11405** Air Line Filter-Regulator-Lubricator — Provides accurate air pressure regulation, two-stage filtration of water contaminants and micro-mist lubrication of pneumatic components. Operates 40 SCFM @ 100 PSIG has 3/8" NPT female ports.
5. Use only genuine Dynabrade replacement parts. To reorder replacement parts, specify the **Model #**, **Serial #**, and **RPM** of your machine.
6. A Motor Tune-Up Kit (P/N **96505**) is available which includes assorted parts to help maintain motor in peak operating condition. Please refer to Dynabrade's Preventative Maintenance Schedule for a guide to expectant life of component parts.
7. 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.
8. DO NOT clean or maintain air tools with chemicals that have a low flash point (example: WD-40®).

Safety Instructions:

Products offered by Dynabrade should not be converted or otherwise altered from original design without expressed written consent from Dynabrade, Inc.



- **Important:** User of tool is responsible for following accepted safety codes such as those published by the American National Standards Institute (ANSI).
- Always disconnect power supply before changing abrasive/accessory or making machine adjustments.
- Inspect abrasives/accessories for damage or defects prior to installation on tools.
- Please refer to Dynabrade's Warning/Safety Operating Instructions Tag (Reorder No. **95903**) for more complete safety information.

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.

Full One Year Warranty

Following the reasonable assumption that any inherent defect which might prevail in a product will become apparent to the user within one year from the date of purchase, all equipment of our manufacture is warranted against defects in workmanship and materials under normal use and service. We shall repair or replace at our factory, any equipment or part thereof which shall, within one year after delivery to the original purchaser, indicate upon our examination to have been defective. Our obligation is contingent upon proper use of Dynabrade tools in accordance with factory recommendations, instructions and safety practices. It shall not apply to equipment which has been subject to misuse, negligence, accident or tampering in any way so as to affect its normal performance. Normally wearable parts such as bearings, contact wheels, rotor blades, etc., are not covered under this warranty.

Model Number	Motor HP (W)	Motor RPM	Air Inlet Thread	Sound Level	Air Flow Rate CFM/SCFM (LPM)	Air Pressure PSIG (Bars)	Spindle Thread	Weight Pound (kg)	Length Inch (mm)	Height Inch (mm)
52196	.3 (224)	18,000	1/4" NPT	81 dB(A)	3/20 (567)	90 (6.2)	3/8"-24 Male	1.9 (.8)	4-1/2 (114)	3-7/8 (98)
52590	.3 (224)	18,000	1/4" NPT	81 dB(A)	3/20 (567)	90 (6.2)	3/8"-24 Male	1.9 (.8)	4-1/2 (114)	3-7/8 (98)
52595	.3 (224)	18,000	1/4" NPT	81 dB(A)	3/20 (567)	90 (6.2)	1/4"-20 Male	1.9 (.8)	4-1/2 (114)	3-7/8 (98)

Additional Specifications: Hose I.D. Size 1/4" (6mm)

(PD08•01)

Motor Assembly/Disassembly Instructions – .33 Hp Rear Exhaust Tools

Important: Manufacturer's warranty is void if tool is disassembled before warranty expires.

A Motor Tune-Up Kit (96505) is available which contains high and medium wear parts. Please refer to parts breakdown for part identification.

To Disassemble:

Motor Disassembly:

1. Invert machine and secure in vice, using 57092 Collar or padded jaws.
2. Remove the accessory.
3. Insert 56058 Lock Ring Wrench into corresponding tabs of lock ring and unscrew. Motor may now be lifted out for service.
4. Using a #2 arbor press remove the 58359 Rear Plate by securing the 54806 Cylinder in a standard 2 inch bearing separator. Push the rotor shaft through the bearing. Remove the cylinder, rotor, vanes and key.
5. Remove 54809 Front Bearing Plate and 58368 Front Motor Bearing, using a standard 2 inch bearing separator.

Motor Disassembly Complete.

Valve Body Disassembly:

1. Position valve body in a vise by using 52296 Repair Collar so that air inlet points up.
2. Secure 01578 Inlet Adapter with a wrench to prevent it from turning. While holding the inlet adapter stationary remove the air fitting by turning it counter-clockwise. **Important:** 01578 Inlet Adapter must be secured before attempting to remove the air fitting so as to avoid damaging the valve body housing.
3. Remove 01578 Inlet Adapter.
4. Remove 95711 Retaining Ring from inlet adapter.
5. Remove 01486 Felt Silencer (4), and 01379 Bronze Muffler.
6. Remove 01564 Air Control Ring from the valve body housing. Use needle nose pliers and remove 01468 Spring, 01472 Tip Valve and 01464 Seal.
7. Use a 2.5mm drive punch to remove 12132 Pin and 01448 or 01462 Throttle Lever.
8. Remove 95558 Retaining Ring and push 01469 Regulator from the valve body housing.

Valve Body Disassembly Complete.

To Assemble:

Motor Assembly:

Important: Be certain parts are clean and in good working order before assembling.

1. Press 58368 Bearing onto the rotor shaft down to the shoulder using 57091 Bearing Press Tool.
2. Place 54809 Front Bearing Plate onto 58368 Bearing and check for smooth rotation.
3. Place 56047 Rotor Key into pocket on 54804 Rotor Shaft.
4. Place 57090 Rotor over 54808 Rotor Shaft making sure to line up slot in 54806 Rotor with 56047 Rotor Key. **Note:** Be certain rotor "floats" easily on the shaft, because the design of this motor uses a floating rotor. There is no need to set or adjust the gap between the rotor and the end plates.
5. Place 56073 Vanes in slots on 57090 Rotor.
6. Place the 54806 Cylinder over the 54808 Rotor. The short line up pin goes toward the 54809 Front Bearing Plate.
7. Place 58359 Rear Bearing Plate and 58368 Bearing over shaft and long end of line up pin and press into place.
8. Make certain threaded end of 54808 Rotor Shaft spins freely.

Motor Assembly Complete.

Valve Body Assembly:

1. Install 01469 Regulator complete with o-rings and valve stem into valve body housing. Secure it in place with 95558 Retaining Ring.
2. Place valve body housing in a vise, holding it with the aid of 52296 Repair Collar so that the air inlet opening points up.
3. Insert 01464 Seal into the air inlet opening so that it lays flat.
4. Line up hole in valve stem with inlet opening in housing (looking past brass bushing). Install 01472 Tip Valve so that the metal pin passes through the hole in the valve stem. Install 01468 Spring (small end against tip valve).
5. Position 01564 Air Control Ring around inlet opening.
6. Place 01379 Bronze Muffler inside 01446 Air Deflector.
7. With 95620 Retaining Ring installed on female threaded end of 01578 Inlet Adapter insert the inlet adapter through 01446 Air Deflector.
8. Place 01486 Felt Silencer (4) inside 01446 Air Deflector.
9. Install 95711 Retaining Ring into groove at the male threaded end of the inlet adapter. Install 96065 O-Ring into groove on the air deflector.
10. Apply Loctite #567 (or equivalent) to the male threads of the 01578 Inlet Adapter and install muffler assembly onto valve body housing (torque to 23 N•m/200 in.-lbs.).
11. Install 01448 or 01462 Throttle Lever onto valve body housing with 12132 Pin.
12. Secure 01578 Inlet Adapter with a wrench to prevent it from turning. **Important:** 01578 Inlet Adapter must be secured before attempting to install the air fitting so as to avoid damaging the valve body housing.

Tool Assembly Complete. Please allow 30 minutes for adhesives to cure before operating tool.

Important: Motor should now be tested for proper operation at 90 PSIG. If motor does not operate properly or operates at a higher RPM than marked on the tool, the tool should be serviced to correct the cause before use. Before operating, place 2-3 drops of Dynabrade Air Lube (P/N 95842) directly into air inlet with throttle lever depressed. Operate tool for 30 seconds to determine if tool is operating properly and to allow lubricating oils to properly penetrate motor

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Optional Accessories



Dynaswivel®

Swivels 360° at two locations which allows an air hose to drop straight to the floor, no matter how the tool is held.

94300: 1/4" NPT.



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.

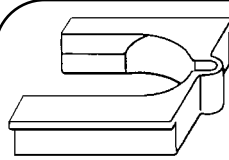
95842: 1 pt. (473 ml)

95843: 1 gal. (3.8 L)



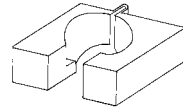
96505 Motor Tune-Up Kit

- Includes assorted parts to help maintain and repair motor.



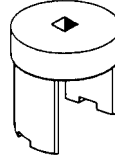
57092 Repair Collar

- Specially designed collar for use in vise to prevent damage to motor housing during disassembly/assembly.



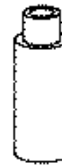
52296 Repair Collar

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



56058 Lock Ring Wrench

- Lock Ring Tool has a 3/8 in. square socket for use with 3/8 in. drive; breaker bar, ratchet head, or torque wrenches.



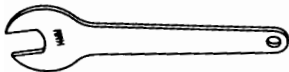
57091 Bearing Press Tool

- Use with a #2 arbor press to achieve accurate press of bearings and motor parts.

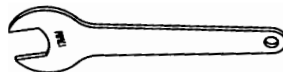
96525 Tool Repair Kit

- Includes special tools for proper disassembly/assembly of the tool.
- Includes all above listed tools.

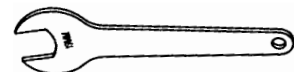
Wrenches



95262 – 14mm open-end
Used On Model **52196**



95263 – 17mm open-end
Used On Model **52590**



95281 – 19mm open-end
Used On Model **52196**



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