

**Tool Intent:** Disc Sanders are for material removal and finishing applications, using properly speed-rated (RPM) coated and engineered abrasives with 7/8" through-hole.

PD06.28R  
July, 2018  
Supersedes PD06.28

# 4-1/2" - 5" Vertical Disc Sander

*Air Motor and Machine Parts*

## Models:

**50304 - 8,500 RPM**

**50307 - 11,000 RPM**

## ⚠ 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: O<sub>1</sub> = Air Lube

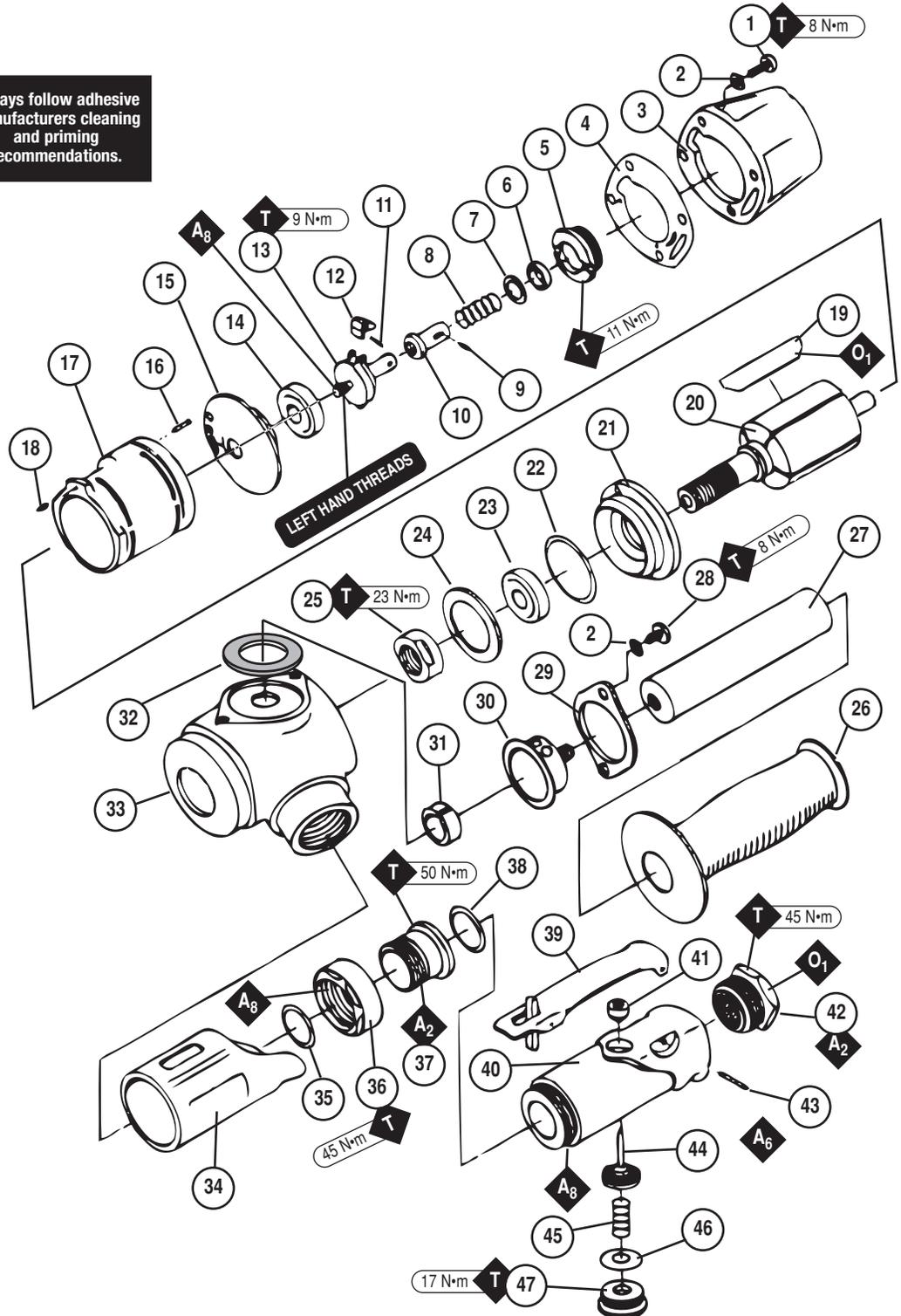
**A** Adhesive:  
A<sub>2</sub> = Loctite #271  
A<sub>6</sub> = Loctite #380  
A<sub>8</sub> = Loctite #567

**T** Torque: N·m x 8.85 = In. - lbs.

Always follow adhesive manufacturers cleaning and priming recommendations.

## Index Key

No.	Part #	Description
1	01790	Screw (4)
2	01791	Washer (6)
3	07123	Governor Cover
4	07129	Gasket
5	07126	Governor Bushing
6	50471	Spring Holder
7	95611	Spacer (6/pkg.)
8	07159	Governor Spring - 8,500
	07175	Governor Spring - 11,000
9	50470	Pin
10	50463	Governor Valve
11	50938	Governor Pin (2)
12	50399	Governor Weight (2) - 8,500
	50460	Governor Weight (2) - 11,000
13	07124	Governor Cage
14	01007	Bearing
15	07114	Rear Bearing Plate
16	01775	Pin
17	07118	Cylinder
18	01673	Pin
19	07107	Blade (5/pkg)
20	07104	Rotor
21	07120	Front Bearing Plate
22	01277	Shim Pack (3/pkg.)
23	02552	Bearing
24	07158	Spacer
25	07135	Rotor Nut
26	07157	Handle Grip
27	52093	Rod
28	50511	Screw (2)
29	07149	Clamp
30	01797	Exhaust Cover
31	01798	Felt Silencer
32	96304	Gasket
33	07161	Housing
34	07136	Grip
35	02658	Packing
36	02631	Nut
37	02626	Adjustment Bushing
38	01746	O-Ring
39	01089	Safety Throttle Lever
40	07141	Valve Body (Includes 07142 Bushing)
41	07142	Bushing
42	01697	Inlet Bushing
43	01017	Pin
44	07168	Valve Stem Assembly
45	07145	Spring
46	07146	Packing
47	07147	Plug



See reverse side for Accessories and Important Operating, Maintenance and Safety Instructions.

## **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. Check tool speed with tachometer. If tool is operating at a higher speed than the RPM marked on the tool or operating improperly, the tool should be serviced to correct the cause before use.
5. 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: **11411** Air Line Filter-Regulator-Lubricator — Provides accurate air pressure regulation, two-stage filtration of water contaminants and micro-mist lubrication of pneumatic components. Operates 55 SCFM @ 100 PSIG has 1/2" 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 **96011**) is available which includes assorted parts to help maintain motor and repair motor.
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, keytones, chlorinated hydrocarbons or nitro carbons.

### **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).
- Operate machine for one minute before application to workpiece to determine if machine is working properly and safely before work begins.
- 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.
- **Warning:** Hand, wrist and arm injury may result from repetitive work, motion and overexposure to vibration.

### **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.

**Note:** To reorder replacement parts, specify the **Model #**, **Serial #**, and **RPM** of your machine.

## **LIFETIME WARRANTY**

To validate Dynabrade Lifetime Warranty, you must register each tool at: [www.dynabrade.com](http://www.dynabrade.com). Registration of each tool at website is required. Dynabrade will not honor Lifetime Warranty on unregistered tools. Please view the entire Lifetime Warranty Policy at [www.dynabrade.com](http://www.dynabrade.com).

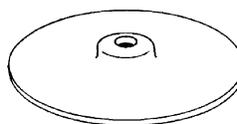
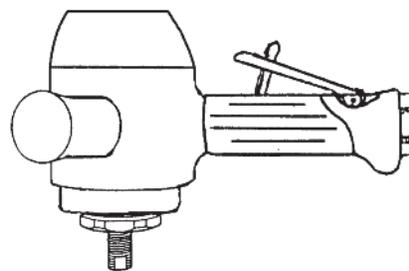
Model Number	Motor hp (W)	Motor RPM	Air Inlet Thread	Maximum Air Flow CFM/SCFM (LPM)	Air Pressure PSIG (Bars)	Spindle Thread	Weight Pound (Kg)	Length Inch (mm)	Height Inch (mm)
50304	1.2 (895)	8,500	1/2" NPT	4/32 (906)	90 (6.2)	5/8"-11 male	4 (1.8)	8 (203)	6 (152)
50307	1.2 (895)	11,000	1/2" NPT	5/36 (1,020)	90 (6.2)	5/8"-11 male	4 (1.8)	8 (203)	6 (152)

Additional Specifications: Hose Size 1/2" (13 mm) • Visit [Dynabrade.com](http://Dynabrade.com) for your model's vibration and sound data.

## Mounting Arrangement

**50275** – 5" Back-up Pad Assembly, 12,500 RPM max.

- Hard density.
- Includes **50273** Flange Nut.
- Accepts abrasive discs with 7/8" center hole.



**50272** – 5" Pad



**50273** Flange Nut

## Disassembly/Assembly Instructions — 4-1/2"- 5" Vertical Disc Sander

**Important:** Manufactures warranty is void if tool is disassembled before warranty expires.

**Notice:** All of the special repair tooling referred to in these instructions can be ordered from Dynabrade. Please refer to this parts page for the proper part identification.

### Motor Disassembly:

1. Shut the air supply to the tool and disconnect the tool from the air supply hose.
2. Remove the **50273** Flange, the abrasive and the **50275** Backing Pad.
3. Use a 5mm hex key to remove the **07190** Screws (4), **07191** Washers (4), **07129** Gasket and the **07161** Governor Cover from the **07126** Housing.
4. Pull the air motor out of the **07126** Housing.
5. Hold the **07135** Rotor Nut stationary and remove the governor assembly by turning it clockwise. (**Left Hand Threads**)
6. Fasten the **96346** Bearing Separator (2") around the portion of the **07118** Cylinder that is closest to the **07114** Rear Bearing Plate.
7. Position the motor assembly with the separator in the **96232** Arbor Press (#2) so that the threaded spindle of the **07104** Rotor is pointing down.
8. Use a 3/16" dia. flat end drive punch as a press tool along with the arbor press to push the rotor out of the **01007** Bearing.
9. Use the **96214** Bearing Removal Tool to remove the **01007** Bearing from the **07114** Bearing Plate.
10. Hold the vane slot portion of the **07104** Rotor in a vise with aluminum or bronze jaws, and remove the **07135** Rotor Nut by turning it counterclockwise.
11. Remove the **07120** Bearing Plate, **02552** Bearing and the **01277** Shims from the rotor.

Motor Disassembly Complete.

### Valve Disassembly:

1. Remove the **07147** Plug by turning it counterclockwise.
2. Remove the **07146** Packing, the **07145** Spring, and the **07168** Valve Stem Assembly.
3. Remove the **01017** Pin and the **01089** Safety Throttle Lever.

Valve Disassembly Complete.

### Muffler Disassembly:

1. Use a 5 mm hex key to remove the **50511** Screws (2), **01791** Washers (2), **07149** Clamp and the **01797** Exhaust Cover.
2. Remove the **01798** Felt Silencer and the **96304** Gasket.

Muffler Disassembly Complete.

**Important: Clean and inspect all parts before assembling.**

### Muffler Assembly:

1. Install the **96304** Gasket onto the **07162** Housing.
2. Install the **01798** Felt Silencer into the **01797** Exhaust Cover and attach these to the **07162** Housing with the **07149** Clamp, **50511** Screws (2), and the **01791** Washers (2).

Muffler Assembly Complete.

### Valve Assembly:

1. Install the **07146** Packing onto the **07147** Plug.
2. Insert the **07145** Spring into the **07168** Valve Stem Assembly and install these into the **07141** Valve Body.
3. Secure the valve components in place with the **07147** Plug. (Torque to 17 N•m/150 in.- lbs.)
4. Install the **01089** Safety throttle Lever securing it in place with the **01017** Pin.

Valve Assembly Complete.

## Disassembly/Assembly Instructions – Vertical Disc Sander (cont.)

### Motor Assembly:

1. Hold the vane slot portion of the **07104** Rotor in a vise with aluminum or bronze jaws so that the threaded spindle of the rotor is pointing up.
2. Select .003" (.08 mm) thickness in shims from the **01277** Shim Pack. Install the shims into the **07120** Bearing Plate and install the **02552** Bearing into the bearing plate.
3. Install the bearing/plate assembly onto the **07104** Rotor and secure the assembly in place with the **07135** Rotor Nut. (Torque to 23 N•m/200 in.- lbs.)
4. Use a .001" (.03mm) feeler gauge to check the gap clearance between the bearing plate and the face of the vane slot portion of the rotor.
5. The gap clearance should be .001" (.03 mm) to .0015" (.04 mm). If the gap clearance needs adjustment repeat steps 2-4 adding or removing shims as required.
6. Lubricate the **07107** Blades (5) with the **95842** Dynabrade Air Lube (10W/NR or equivalent) and install these into the vane slots in the motor.
7. Install the **07118** Cylinder over the **07104** Rotor so that the air inlet opening of the cylinder will line up with the air inlet opening in the **07114** Bearing Plate.
8. Use the **96244** Bearing Press Tool along with the **96232** Arbor Press to install the **01007** Bearing into the **07114** Bearing Plate. Rest the raised outer diameter of the bearing press tool against the outer diameter of the **01007** Bearing and press the bearing into the bearing plate.
9. Use the raised inner diameter of the **96244** Bearing Press Tool so that it will rest against the inner diameter of the **01007** Bearing. Carefully press the bearing/plate assembly onto the **07104** Rotor until it comes in contact with the cylinder. This will establish a snug fit between the bearing plates and the cylinder.
10. Hold the **07135** Rotor Nut in vise with aluminum or bronze jaws so that the female threaded end of the rotor is pointing up.
11. Install the governor assembly onto the **07104** Rotor turning it counterclockwise. (**Left Hand Thread**) (Torque to 9 N•m/80 in.- lbs.)
12. Install the **07158** Spacer into the **04162** Housing.
13. Install the motor assembly into the **04162** Housing and orient the **01775** Pin to match the correct position of the governor cover.
14. Place the **07129** Gasket onto the **04162** Housing and then install the **07123** Governor Cover holding it in place with the **01790** Screws (4) and the **01791** Washers (4). (Torque to 8 N•m/70 in.lbs.)
15. Install the **50275** Backing Pad, the abrasive and the **50273** Flange Nut.

Motor Assembly Complete.

Tool Assembly Complete.

## Optional Accessories



### Dynamswivel®

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

- **95462** 1/2" NPT



### 96041 Motor Tune-Up Kit:

- Includes assorted parts to help maintain and repair motor.



### 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)



### 96232 #2 Arbor Press

- This arbor press is ideal for the disassembly and assembly of air motors.



### 96346 Bearing Separator

- Use the separator to remove gears and bearings.



### 96244 Bearing Press Tool

- This tool is designed to safely press a bearing into a bearing plate and onto a shaft.



**95823** – 21 mm Open-End.



### 96214 Bearing Removal Tool

- This tool is designed to pass through the I.D. of the bearing plate and push against the I.D. of the bearing.

## REFERENCE CONTACT INFORMATION

American National Standards Institute (ANSI) • [www.ansi.org](http://www.ansi.org)  
25 West 43 Rd St., 4th Floor • New York, NY 10036 • Tel: 1 (202) 293-8020

International Organization for Standardization (ISO)  
[www.iso.org](http://www.iso.org) • PO Box 56 • Ch-1211 Geneva 20, Switzerland

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