Parts Page Reorder No. PD04•48
Effective November, 2004
Supersedes PD96•84

4-1/2" – 5" Vertical Depressed Center Wheel

Model:
50303 – 12,000 RPM

Machine and Motor Parts

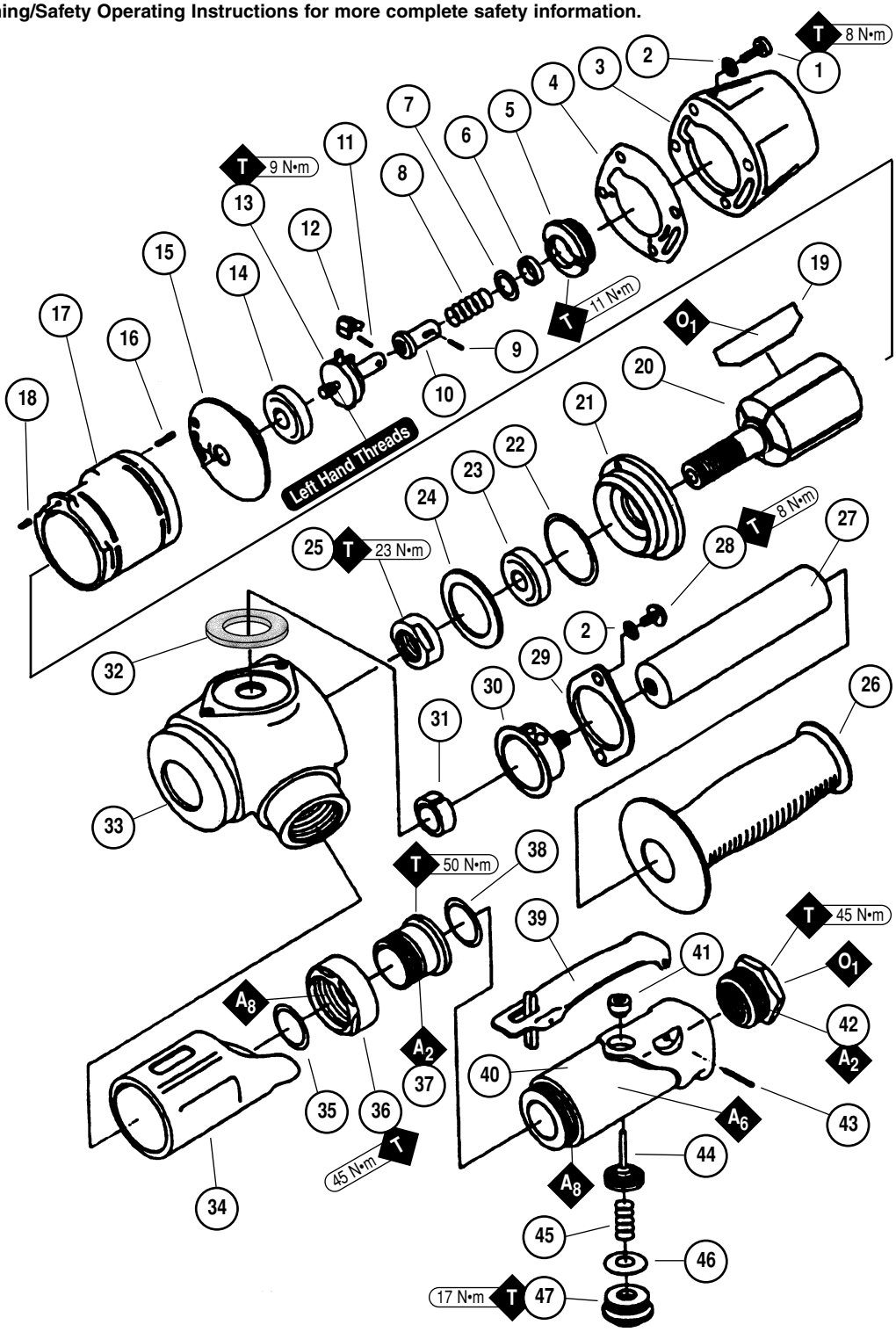
WARNING **Always operate, inspect and maintain this tool in accordance with the Safety Code for portable air tools (ANSI B186.1, B7.1) and any other applicable safety codes and regulations. Please refer to Dynabrade's Warning/Safety Operating Instructions for more complete safety information.**

KEY

- O Oil: O_1 = Air Lube
- A Adhesive: A_2 = Loctite #271, A_6 = Loctite #380, A_8 = Loctite #567
- T Torque: N•m x 8.85 = In. - lbs.

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	**52126**	Governor Spring
9	**50470**	Pin
10	**50463**	Governor Valve
11	**50938**	Governor Pin (2)
12	**50399**	Governor Weight (2)
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 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. Air tools are not intended for use in explosive atmospheres and are not insulated for contact with electrical power sources.

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 up to 55 SCFM (1,558 LPM) @ 100 PSIG (6.9 Bar) 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 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, 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.

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	Sound Level	Maximum Air Flow CFM/SCFM (LPM)	Spindle Thread	Air Pressure PSIG (Bars)	Weight Pound (kg)	Length Inch (mm)	Height Inch (mm)
50303	1.2 (895)	12,000	84 dB(A)	5/38 (1,076)	5/8"-11 Male	90 (6.2)	5.4 (2.4)	8 (203)	6-5/8 (168)

Additional Specifications: Air Inlet Thread 3/8" NPT • Hose I.D. 1/2" or 15mm

Disassembly/Assembly Instructions – 4-1/2" – 5" Vertical Depressed Center Wheel Grinder

Important: The manufacturer's warranty is void if the tool is disassembled before the warranty expires.
Notice: All of the special repair tools referred to in these instructions can be ordered from Dynabrade.
Please refer to this parts page for the proper part number identification.

Motor Disassembly:

1. Shut the air supply to the tool and disconnect the tool from the air supply hose.
2. Use the **95823** (21mm) Wrench to hold the **07138** Back Flange stationary. Use the **95051** (3/8") Hex Key to remove the **07139** Front Flange, and the abrasive wheel.
3. Remove the **07138** Back Flange with the **95823** (21mm) Wrench while holding the **07135** Rotor Nut stationary an adjustable wrench.
4. Use a 5mm hex key to remove the **07190** Screws (4), **07191** Washers (4), **07129** Gasket and the **07123** Governor Cover from the **07161** Housing.
5. Pull the air motor out of the **07161** Housing.
6. Hold the **07135** Rotor Nut stationary and remove the governor assembly by turning it clockwise. (**Left Hand Thread**)
7. Fasten the **96346** Bearing Separator (2") around the portion of the **07118** Cylinder that is closest to the **07114** Rear Bearing Plate.
8. 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.
9. 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.
10. Use the **96214** Bearing Removal Tool to remove the **01007** Bearing from the **07114** Rear Bearing Plate.
11. 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.
12. Remove the **07120** Front 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 5mm 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.

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. Hold the valve components in place with the **07147** Plug. (Torque to 17 N•m/150 in. lbs.)
4. Install the **01089** Safety Throttle Lever holding it in place with the **01017** Pin.

Valve Assembly Complete.

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" (.08mm) thickness in shims from the **01277** Shim Pack. Install the shims into the **07120** Front Bearing Plate and install the **02552** Bearing into the bearing plate.
3. Install the bearing/plate assembly onto the **07104** Rotor and hold 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" (.03mm) to .0015" (.04mm). 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 rotor.
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 **07118** Cylinder. This will establish a snug fit between the bearing plates and the cylinder.
10. Hold the **07135** Rotor Nut in a 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.)

(continued on next page)

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 **07138** Back Flange, the abrasive and hold these in place securely with the **07139** Front Flange.

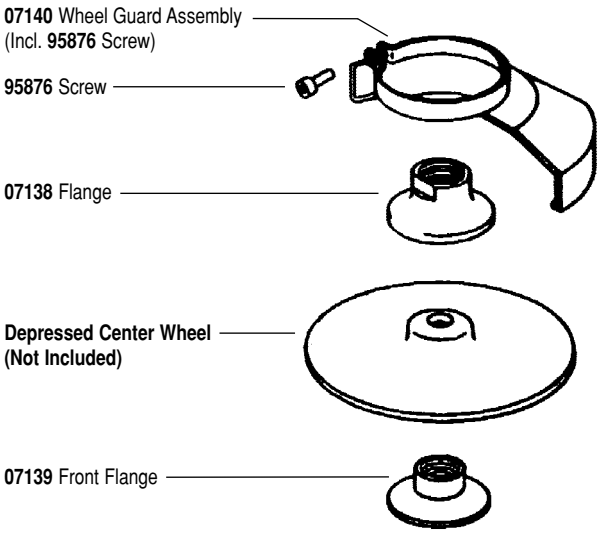
Motor Assembly Complete.

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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Wheel Guard Assembly



Important Safety Information

1. Always use eye, face and body protection.
2. Always use wheel guard.
3. For safe use of this tool, always comply with OSHA, ANSI Standards B7.1 and B186.1.

Warning: Do Not Remove Wheel Guard.

Optional Accessories



Dynaswivel®

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

95462 – 1/2" 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: 1pt. (473 ml)
95843: 1gal. (3.8 L)



96011 Motor Tune-Up Kit

- Includes assorted parts to help maintain and repair motor.



95823 – 21mm Open-End Wrench



95051 – 3/8" Hex Wrench

Special Repair Tools:

95823 21mm Open End Wrench
96346 Bearing Separator
96214 Bearing Removal Tool
96232 Arbor Press

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