

Models:

- 52216 – 15,000 RPM, 1/4" Collet**
- 52218 – 20,000 RPM, 1/4" Collet**
- 52272 – 15,000 RPM, 6mm Collet**
- 52274 – 20,000 RPM, 6mm Collet**

.5 hp/7°/Long Shank/Front Exhaust Die Grinder

Air Motor and Machine Parts

! WARNING

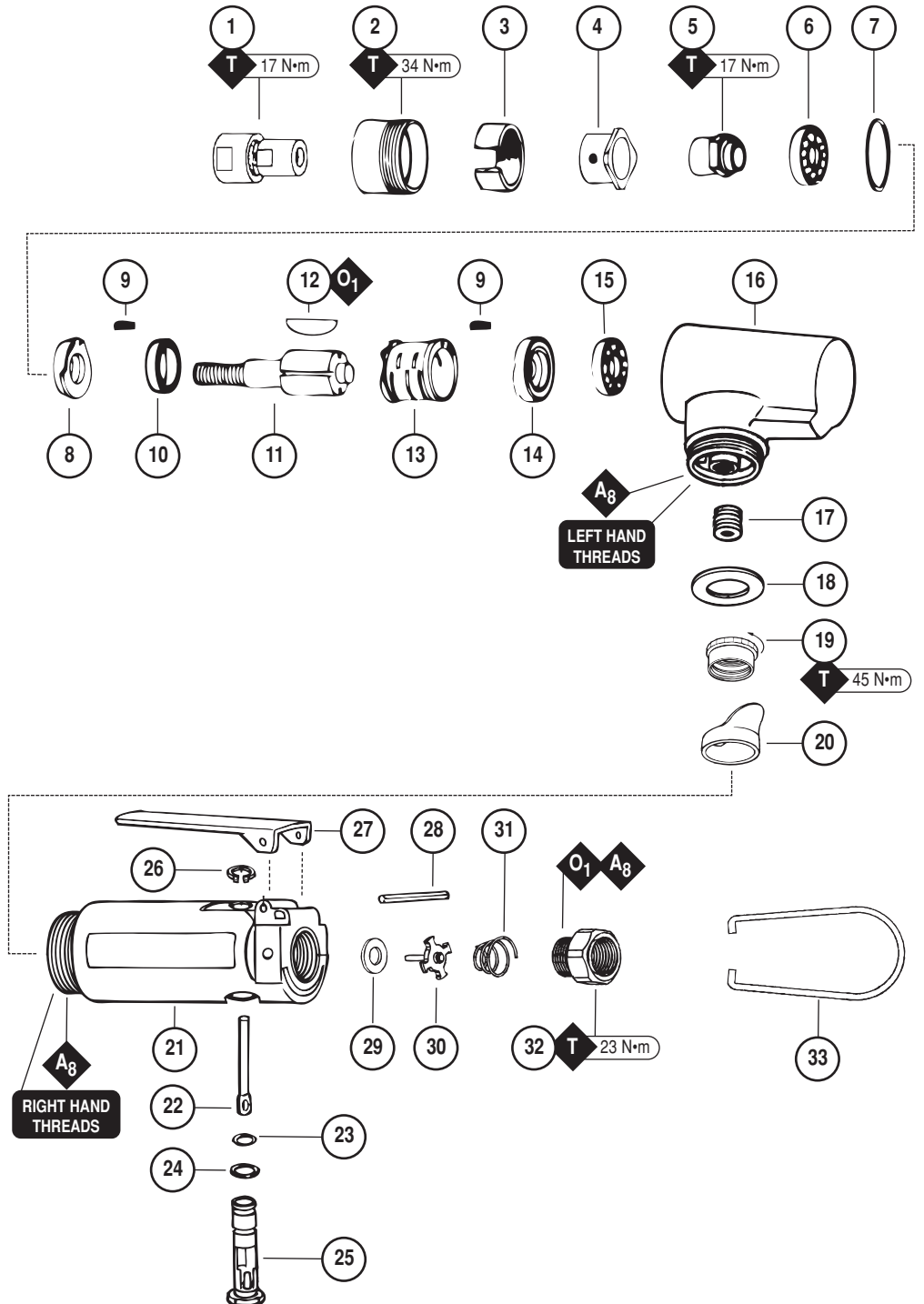
Always operate, inspect and maintain this tool in accordance with the Safety Code for portable air tools (ANSI B186.1) and any other applicable safety codes and regulations. Please refer to Dynabrade's Warning/Safety Operating Instructions for more complete safety information.

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	Collet Assembly	
	50010	1/4"
	50015	6 mm
2	04087	Lock Ring
3	04078	Felt Silencer
4	Air Control Ring	
	01124	15,000 RPM
	04084	20,000 RPM
5	04081	Rotor Nut
6	01007	Bearing
7	01121	Shim (3/Pkg.)
8	01008	Bearing Plate
9	50767	Pin (2)
10	01010	Spacer
11	01120	Rotor
12	01011	Blades (4/Pkg.)
13	01013	Cylinder
14	01014	Bearing Plate
15	01015	Bearing
16	01447	Housing
17	01437	Plug
18	01548	Gasket
19	01461	Lock Nut
20	01558	Insulator Collar
	01463	Housing
Please indicate: Model #, Serial # and RPM when ordering replacement parts		
22	01449	Valve Stem
23	95730	O-Ring
24	01024	O-Ring
25	01469	Speed Regulator Assy. (includes O-Rings)
26	95558	Retaining Ring
27	01448	Throttle Lever
	01462	Safety Lock Lever (Optional)
28	12132	Pin
29	01464	Seal
30	01472	Tip Valve
31	01468	Spring
32	01494	Inlet Adapter
33	50033	Hanger



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 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.

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 20 SCFM (example : if the tool specification state 40 SCFM, set the drip rate of your filter-lubricator at 2 drops per minute). Dynabrade Air Lube (P/N **95842**: 1pt. 473ml.) is recommended.
4. An air line filter-regulator-lubricator must be used with this air tool to maintain all warranties. 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 @ 1000 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 **96044**) is available which includes assorted parts to help maintain 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.

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)	Air Pressure PSIG (Bars)	Spindle Thread	Weight Pound (Kg)	Length Inch (mm)	Height Inch (mm)
52216	.5 (373)	15,000	78 dB(A)	4/26 (736)	90 (6.2)	3/8"-24 male	2 (.9)	6 (152)	5-1/2 (140)
52218	.5 (373)	20,000	77 dB(A)	4/28 (793)	90 (6.2)	3/8"-24 male	2 (.9)	6 (152)	5-1/2 (140)
52272	.5 (373)	15,000	78 dB(A)	4/26 (736)	90 (6.2)	3/8"-24 male	2 (.9)	6 (152)	5-1/2 (140)
52274	.5 (373)	20,000	77 dB(A)	4/28 (793)	90 (6.2)	3/8"-24 male	2 (.9)	6 (152)	5-1/2 (140)

Additional Specifications: Air Inlet Thread 1/4" NPT • Hose Size 3/8" (10 mm)

Disassembly/Assembly Instructions — .5 hp/ 7°/ Long Shank/ Front Exhaust/ Die Grinder

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

Notice: Dynabrade strongly recommends the use of their **52296** Repair Collar (sold separately) during assembly/disassembly of the tool. 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. Disconnect the die grinder from the air supply.
2. Remove the **52296** Repair Collar around the valve housing and secure the tool in a vise so that the collet assembly is pointing up.
3. Insert a 3/16" hex key through the collet assembly and into the center of the rotor to hold it stationary. Use an adjustable wrench to remove the collet assembly.
4. Use the **50971** Lock Ring Tool to remove the **04087** Lock Ring by turning it counterclockwise.
5. Remove the **04078** Silencer and the air control ring from the lock ring
6. Fasten the **96346** Bearing Separator (2") around the portion of the **01013** Cylinder that is closest to the **01014** Bearing Plate. Place the bearing separator and the motor in the **96232** Arbor Press (#2) so that the rotor shaft is pointing down. Use a 3/16" dia. flat end drive punch as a press tool to push the **01120** Rotor out of the **01015** Bearing.
7. Remove the cylinder and blades.
8. Use the **96211** Bearing Removal Tool and arbor press to remove the **01015** Bearing from the **01014** Bearing Plate.
9. Secure the blade slot portion of the rotor in a vise with aluminum or bronze jaws and remove the **04081** Rotor Nut by turning it counterclockwise.
10. Remove the **01008** Bearing Plate along with the **01007** Bearing and the **01121** Shims by sliding them off the rotor.
11. Remove the **01010** Spacer from the rotor.

Motor Disassembly Complete.

Valve Disassembly:

1. Position the **52296** Repair Collar around the valve housing and secure the tool in a vise so that the **01494** Inlet Adapter is pointing up.
2. Use a wrench to hold the inlet adapter stationary when removing the air fitting.
3. Remove the **01494** Inlet Adapter by turning it counterclockwise.
4. Use needle nose pliers to remove the **01468** Spring and the **01472** Tip Valve. Use a small screwdriver to remove the **01464** Seal.
5. Position the valve housing so that the **12132** Pin, throttle lever, and **01449** Valve Stem can be removed.
6. Use retaining ring pliers to remove the **95558** Retaining Ring and then push the **01469** Speed Regulator Assembly out of the valve housing.

Valve Disassembly Complete.

Clean and inspect all parts before assembling.

Valve Assembly:

1. Install the **01469** Speed Regulator Assembly (with o-rings) into valve housing and secure it in place with the **95558** Retaining Ring.
2. Position the **52296** Repair Collar around the valve housing and secure the tool in a vise so that the **12132** Pin, throttle lever, and **01449** Valve Stem can be installed.
3. Position the **52296** Repair Collar around the valve housing and secure the tool in a vise so that the air inlet opening is pointing up.
4. Install the **01464** Seal into the valve housing so that it is laying flat.
5. Use needle nose pliers to the **01472** Tip Valve so that the metal pin passes through the hole in the **01449** Valve Stem.
6. Install the **01468** Spring so that the smaller end of the spring fits against the back of the tip valve.
7. Apply a small amount of the Loctite #567 (or equivalent) to the external threads of the **01494** Inlet Adapter and install it into the valve housing.
8. Hold the inlet adapter stationary with a wrench when installing the air fitting.

Valve Assembly Complete.

Motor Assembly:

1. Secure the blade slot portion of the rotor in a vise with aluminum or bronze jaws and install the **01010** Spacer onto the rotor.
2. Select .003" (.08 mm) thickness in shims from the **01121** Shim Pack and install these into the **01008** Bearing Plate.
3. Install the **01007** Bearing into the bearing plate and install these onto the rotor.
4. Install the **04081** Rotor Nut onto the rotor. (Torque to 17 N•m/150 in. lbs.)
5. Use a .001" 90.3 mm) thick feeler guage to check the clearance between the bearing plate and the face of the blade slot portion of the rotor.
6. The gap clearance should be .001"-.0015" (0.3-0.4 mm). **Note:** If the clearance needs adjustment repeat steps 2-4 adding or removing shims as required.
7. Lubricate the **01011** Blades with the **95842** Dynabrade Air Lube (10W/NR or equivalent) and install these into the rotor.
8. Install the **01013** Cylinder over the rotor so that the air inlet opening of the cylinder will line up with the air inlet opening in the **01014** Bearing Plate.
9. Use the raised outer diameter of the **96241** Bearing Press Tool and the arbor press to install the **01015** Bearing into the **01014** Bearing Plate.
10. Use the raised inner diameter of the **96241** Bearing Press Tool and the arbor press to install the bearing/plate onto the rotor. Carefully press the bearing/plate down until it just touches the cylinder. This will establish a snug fit between the bearing plates and the cylinder.
11. Carefully slide the motor assembly into the **01447** Housing.
12. Install the **04078** Felt Silencer and the air control ring into the **04087** Lock Ring.
13. Apply a small amount of the Loctite #567 (or equivalent) to the threads of the lock ring and install it onto the **01447** Housing. (Torque to 34 N•m/300 in. lbs.)
14. Use a 3/16" hex key to install the collet assembly. (Torque to 17 N•m/150 in. lbs.)

Motor Assembly Complete.

Disassembly/Assembly Instructions — Continued

Throttle Positioning Procedure:

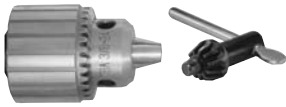
Important: Carefully perform this procedure so as not to entirely separate the 01447 Housing from the valve housing. Loosen the 01461 Lock Nut only enough to make the desired throttle lever adjustment.

1. Place the 52296 Repair Collar around the valve housing and secure it in a vise so that the 01447 Housing is pointing up.
2. Slip the 01558 Collar down onto the valve housing to expose the 01461 Lock Nut.
3. With a firm hold on the 01447 Housing use a 34 mm or an adjustable wrench to turn the lock nut clockwise to loosen the 01447 Housing from the valve housing.
4. Orient the throttle lever to the operators desired grip and positioning.
Note: Allow for additional rotation of the 01447 Housing as the 01461 Lock Nut is tightened.
5. Grasp the 01447 Housing firmly to reduce its rotation. Use a 34 mm or an adjustable wrench to tighten the 01461 Lock Nut. (Torque to 45 N•m/400 in. lbs.)
6. Slip the 01558 Collar back over the 01461 Lock Nut.

Throttle Positioning Procedure Complete.

Tool Assembly Complete.

Optional Accessories



53032 — 1/4" Drill Chuck
Includes: 53052 Mated Chuck Key



Collet Inserts
• 50065 — 1/8"
• 50039 — 8mm



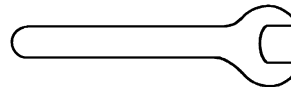
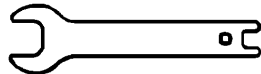
Dynaswivel®
Swivels 360° at two locations which allows an air hose to drop straight to the floor, no matter how the tool is held.
• 95460 1/4" NPT



96044 Motor Tune-Up Kit:
• Includes assorted parts to help maintain and repair motor.

Wrenches

95281 — 19 mm open-end



95262 — 14 mm open-end

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