Parts Page Reorder No. PD03•35
Effective December, 2003
Supersedes PD02•27

.4 Hp/Straight-Line/Rear Exhaust Die Grinder

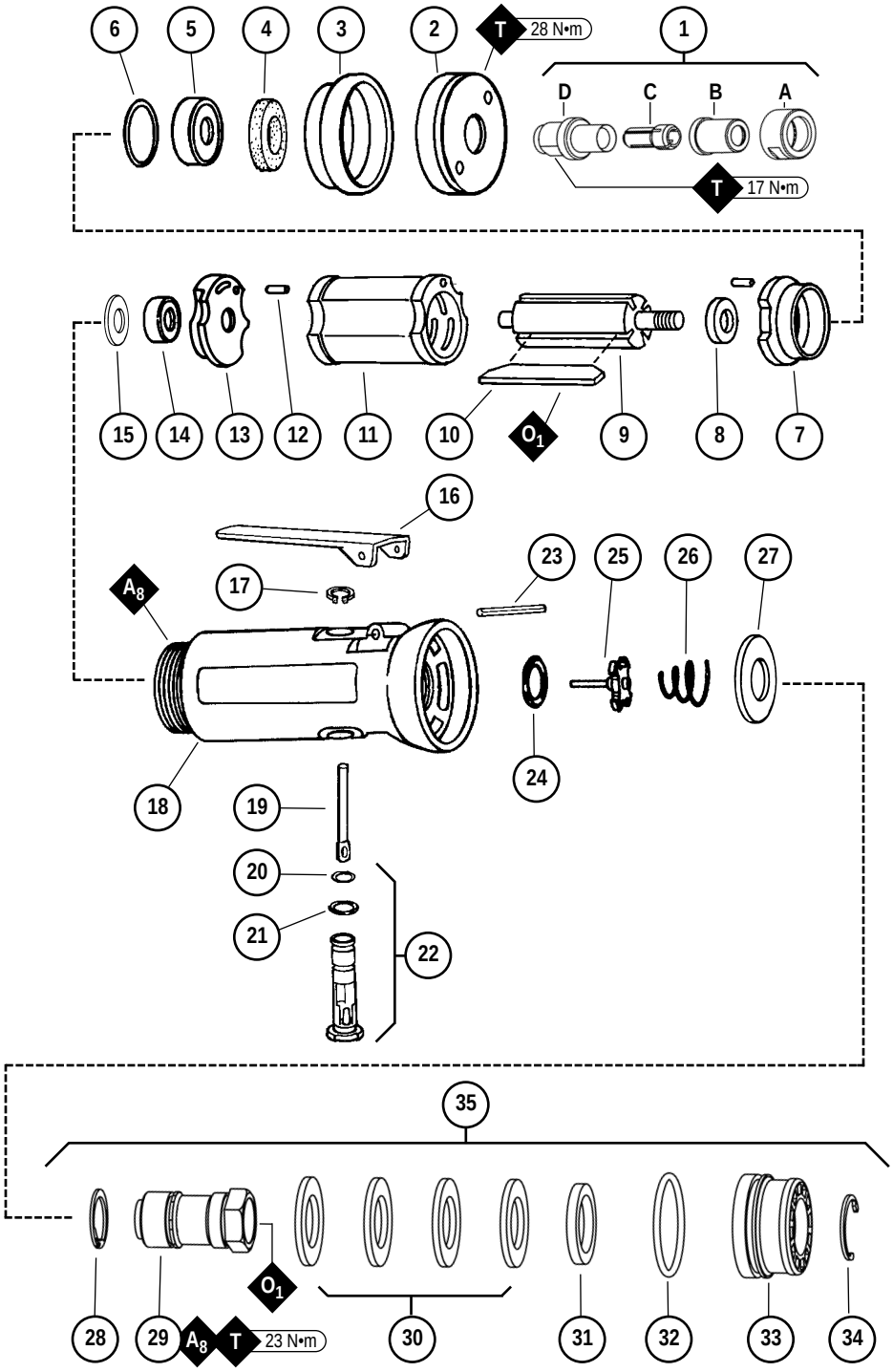
Models:
52345 — 30,000 RPM, 1/8" – Collet

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: **O_1 = Air Lube**
- A Adhesive: **A_8 = Loctite #567**
- T Torque: **N•m x 8.85 = In. - lbs.**



Index Key

No.	Part #	Description
1	**51121**	Collet Assembly (Includes The Following Items)
A	**51107**	Collet Cap
B	**51098**	Retaining Nut
C	**01495**	1/8" Collet Insert
D	**51105**	Collet Body
2	**01489**	Exhaust Cover
3	**01547**	Rubber Collar
4	**01580**	Silencer
5	**02649**	Bearing
6	**54529**	Shim Pack (3/pkg)
7	**01478**	Front Bearing Plate
8	**01479**	Spacer
9	**01475**	Rotor
10	**01480**	Blades (4/pkg)
11	**01476**	Cylinder
12	**50767**	Pin (2)
13	**02676**	Rear Bearing Plate
14	**02696**	Bearing
15	**02679**	Shield
16	**01448**	Throttle Lever
	01462	Safety Lock Lever
17	**95558**	Retaining Ring
18	**01488**	Housing – **52345**
19	**01449**	Valve Stem
20	**95730**	O-Ring
21	**01024**	O-Ring
22	**01469**	Speed Reg. Assy.
23	**12132**	Pin
24	**01464**	Seal
25	**01472**	Tip Valve
26	**01468**	Spring
27	**Air Control Ring**	
	01564	30,000 RPM
28	**95711**	Retaining Ring
29	**01578**	Inlet Adapter
30	**01486**	Felt Silencer (4)
31	**01379**	Bronze Muffler
32	**96065**	O-Ring
33	**01446**	Air Deflector
34	**95620**	Retaining Ring
35	**94535**	Muffler Assembly

See inside for Important Operating, Maintenance and Safety Instructions.
Please indicate: Model #, Serial #, and RPM when ordering replacement parts.

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.

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. 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 @ 100 PSIG has 3/8" NPT female ports.
5. Use only genuine Dynabrade replacement parts. To reorder replacement parts, please specify the **Model #**, **Serial #** and **RPM** of your machine.
6. A Motor Tune-Up Kit (P/N **96049**) is available which includes assorted parts to help maintain motor in peek operating condition.
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	Air Flow Rate CFM/SCFM (LPM)	Air Pressure PSIG (Bars)	Spindle Thread	Weight Pound (kg)	Length Inch (mm)	Height Inch (mm)
52345	.4 (298)	30,000	81 dB(A)	3/23 (651)	90 (6.2)	M8 x 1.0 male	1 (.5)	7-1/8 (181)	1-5/8 (41)

Additional Specifications: Hose I.D. Size 1/4" (8 mm) • Air Inlet Thread 1/4" NPT

Disassembly/Assembly Instructions - .4 Hp/Straight-Line/Rear Exhaust

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

Notice: Dynabrade recommends the use of their 52296 Repair Collar (sold separately) during assembly/disassembly of the straight-line die grinder. All of the special tooling referred to in these instructions can be ordered from Dynabrade. Please refer to the parts page for the proper part identification.

Motor Disassembly:

1. Disconnect the tool from the air supply. **Important:** Hold the air inlet adapter securely with a wrench before removing the air fitting so as to prevent damage to the composite housing.
2. Secure the motor housing in a vise by using the **52296** Repair Collar or padded jaws to provide protection for the housing. Position the tool so that the collet assembly is pointing up. Remove the collet cap, retaining nut and insert.
3. Use the **50971** Lock Ring Tool to remove the **01489** Exhaust Cover by turning it counterclockwise.
4. Pull the motor assembly out of the motor housing.
5. Fasten the **96346** (2") Bearing separator around the portion of the **01476** Cylinder that is closest to the **02676** Rear Bearing Plate.
6. Place the bearing separator on the table of the **96346** (#2) Arbor Press so that the collet body is pointing toward the floor.
7. Use a 3/16" dia. flat end drive punch as a press tool and position it on the rotor shaft. Press the rotor out of the **02696** Bearing. The **02696** Bearing can be removed from the **02676** Rear Bearing Plate with the **96210** Bearing Removal Tool and the arbor press.
8. Secure the rotor in a vise with bronze or aluminum jaws so that the collet body is pointing up. Use a wrench to remove the collet body by turning it counterclockwise.
9. Remove the front bearing/plate. Push the **02649** Bearing out of the front bearing plate and remove the shims. Slip the **01479** Spacer off the rotor.

Motor Disassembly Complete.

Valve Disassembly:

1. Use the **52296** Repair Collar to securely hold the motor housing in a vise so that the inlet adapter is pointing up.
2. Remove the **94535** Muffler Assembly by loosening the **01578** Inlet Adapter turning it counterclockwise. Remove the **01468** Spring, **01472** Tip Valve, and **01464** Seal. **Note:** Refer to the parts breakdown for part identification and the sequence of assembly for the **94535** Muffler.
3. Position the motor in the vise so that the throttle lever and the **12132** Pin are accessible. Remove the pin and lever by using a 2.5 mm dia. drive punch.
4. Use retaining ring pliers to remove the **95558** Retaining Ring and push the **01469** Speed Regulator Assembly out of the motor housing.

Valve Disassembly Complete.

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

Valve Assembly:

1. Install the **01469** Speed Regulator Assembly into the motor housing, and secure it in place with the **95558** Retaining Ring.
2. Use the **52296** Repair Collar to securely hold the motor housing in a vise so that the air inlet is pointing up.
3. Insert the **01449** Valve Stem into the speed regulator assembly so that the hole in the valve stem aligns with the air inlet hole in the motor 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 install it so that the metal pin fits into the hole of the **01449** Valve Stem.
5. Install the **01468** Spring so that the smaller end fits over the back of the tip valve.
6. Apply a small amount of Loctite #567 (or equivalent) to the male threads of the **01578** Inlet Adapter and install the **94535** Muffler Assembly. Tighten the inlet adapter. (Torque to 23 N•m/200 in. lbs.)

Valve Assembly Complete.

Motor Assembly:

1. Secure the rotor in a vise with bronze or aluminum jaws so that the threaded end is pointing up.
2. Slip the **01479** Spacer onto the **01475** Rotor.
3. Place .003 thickness in shims into the **01478** Front Bearing Plate as an initial spacing and then install the **02649** Bearing into the front bearing plate.
4. Install the bearing and plate assembly onto the rotor.
5. Install the **01547** Rubber Collar, and **01580** Silencer onto the **01489** Exhaust Cover. Install these onto the rotor.
6. Install the collet body onto the rotor. (Torque to 17 N•m/150 in. lbs.)
7. Check the clearance between the rotor and the bearing plate with a .001 thick feeler gage. Clearance should be .001" to .0015". if it's necessary, readjust clearance by repeating steps 3-5 with different thickness shims.
8. Once the proper rotor/plate clearance is achieved, apply the **95842** Dynabrade Air Lube (10W/NR or equivalent) to the **01480** Blades (4) and install them.
9. Use the **96516** Bearing Press Tool so that it pushes against the outer race of the **02696** Bearing and install it into the **02676** Rear Bearing Plate using the arbor press.
10. Install the **01476** Cylinder so that it rests against the **01478** Bearing Plate. **Note:** Make sure that the inlet air passage of the cylinder is properly aligned with the inlet air passage in the **02676** Rear Bearing Plate.
11. Use the **96216** Bearing Press Tool so that it pushes against the inner race of the **02696** Bearing and install the rear bearing/plate assembly onto the motor assembly using the arbor press. **Important:** Carefully press the rear bearing/plate assembly onto the rotor until it 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 will cause damage to the bearings. If it is too loose the proper bearing preload will not be achieved.
12. Apply a small amount of grease to the seal of the **02696** Bearing and place the **02679** Shield against the seal of the bearing.
13. Install the motor assembly into the housing so that the air passage node of the rear bearing plate aligns with the air passage notch that's inside the housing.

(continued on next page)

Disassembly/Assembly Instructions (continued)

14. Apply a small amount of Loctite #567 (or equivalent) to the threads of the motor housing and use the **50971** Lock Ring Tool to tighten the exhaust cover onto the motor housing. (Torque to 28 N•m.250 in. lbs.)

15. Install the collet assembly components.

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.

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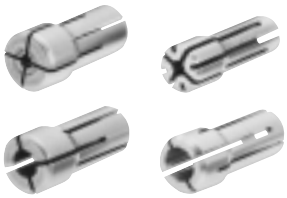
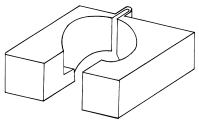
Optional Accessories



Collet Inserts
- **01485** 1/4"
- **01497** 6 mm
- **01495** 1/8"
- **01496** 3 mm



52296 Repair Collar
- Specially designed collar for use in vise to prevent damage to valve body housing during disassembly/assembly.



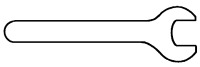
96049 Motor Tune-Up Kit
- Includes assorted parts to help maintain and repair motor.



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.



50971 Lock Ring Tool
- Lock Ring Tool has a 3/8 in. square socket for use with 3/8 in. drive; breaker bar, ratchet head, or torque wrenches.



Open-End Wrenches
96031 – 7/16" open-end.
96032 – 11/16" open-end.



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.



96210 Bearing Removal Tool
- Used to remove bearings.



96216 Bearing Press Tool
- Used to press bearings.

Visit Our Web Site: www.dynabrade.com **Email:** Customer.Service@Dynabrade.com

DYNABRADE®

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