Model:

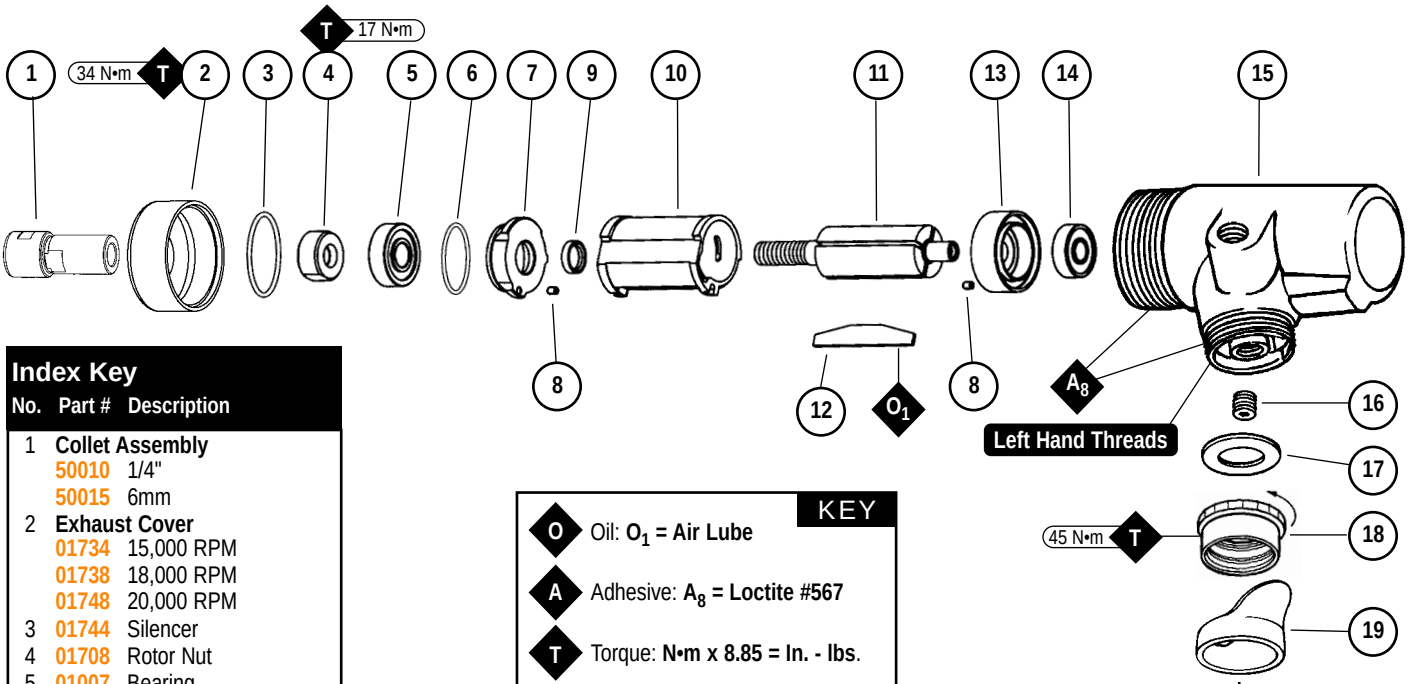
52240 – 1/4" Collet, 15,000 RPM
52241 – 1/4" Collet, 18,000 RPM
52242 – 1/4" Collet, 20,000 RPM
52243 – 1/4" Collet, 20,000 RPM (w/ 53163 Side Handle)
52284 – 6mm Collet, 15,000 RPM
52285 – 6mm Collet, 18,000 RPM
52286 – 6mm Collet, 20,000 RPM
52287 – 6mm Collet, 20,000 RPM (w/ 53163 Side Handle)

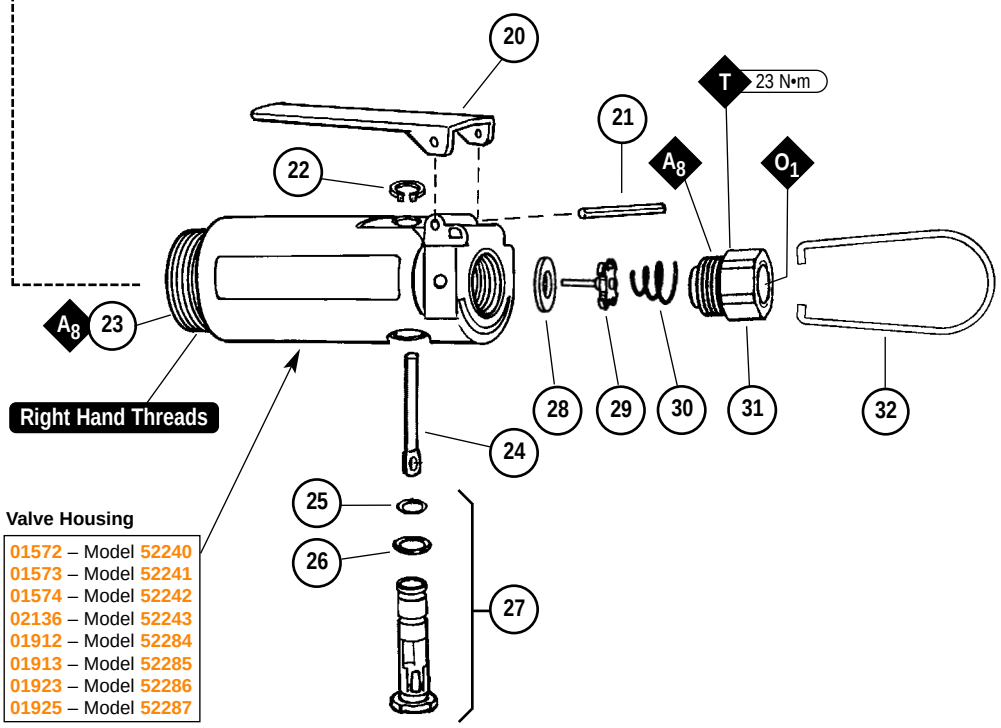
Parts Page Reorder No. PD04•37
Effective July, 2004
Supersedes PD02•12

.7Hp/7°/Front Exhaust Die Grinder

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) and any other applicable safety codes and regulations. Please refer to Dynabrade's Warning/Safety Operating Instructions for more complete safety information.**





Index Key

No.	Part #	Description
1		**Collet Assembly**
	50010	1/4"
	50015	6mm
2		**Exhaust Cover**
	01734	15,000 RPM
	01738	18,000 RPM
	01748	20,000 RPM
3	01744	Silencer
4	01708	Rotor Nut
5	01007	Bearing
6	01121	Shim (3/pkg.)
7	01008	Plate
8	50767	Guide Pin (2)
9	01010	Spacer
10	01028	Cylinder
11	55025	Rotor
12	01185	Blade (4/Pkg.)
13	01743	Bearing Plate
14	02649	Bearing
15	01739	Motor Housing
16	01437	Plug
17	01548	Gasket
18	01461	Lock Nut
19	01558	Collar
20	01448	Throttle Lever
	01462	Safety Throttle Lever
21	12132	Pin
22	95558	Retaining Ring
23		**Housing (See Chart)**
24	01449	Valve Stem
25	95730	O-Ring
26	01024	O-Ring
27	01469	Speed Regulator Assy.
28	01464	Seal
29	01472	Tip Valve
30	01468	Spring
31	01494	Inlet Bushing
32	50033	Hanger

Valve Housing

01572 – Model 52240
01573 – Model 52241
01574 – Model 52242
02136 – Model 52243
01912 – Model 52284
01913 – Model 52285
01923 – Model 52286
01925 – Model 52287

See inside 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. 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.

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 specification states 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, please specify the **Model #**, **Serial #** and **RPM** of your machine.
6. A Motor Tune-Up Kit (P/N **96045**) 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.

Note: For 6mm Model specifications refer to corresponding 1/4" Models.

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)
52240	.7 (522)	15,000	85 dBA	4/28 (793)	90 (6.2)	3/8"-24 male	1.7 (.8)	6 (152)	5-1/2 (140)
52241	.7 (522)	18,000	87 dBA	4/28 (793)	90 (6.2)	3/8"-24 male	1.7 (.8)	6 (152)	5-1/2 (140)
52242	.7 (522)	20,000	84 dBA	4/28 (793)	90 (6.2)	3/8"-24 male	1.7 (.8)	6 (152)	5-1/2 (140)

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

Disassembly/Assembly Instructions - .7Hp/7˚/Front Exhaust Die 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 identification.

Motor Disassembly:

1. Shut the air supply and disconnect the tool from the air supply hose.
2. Use the **52296** Repair Collar to carefully hold the **01739** Motor Housing in a vise with aluminum or bronze jaws. Hold the back portion of the housing opposite the lock ring so as not to crush the housing and so that the collet assembly is pointing up.
3. Remove the collet assembly.
4. Use an adjustable open-end wrench to remove the exhaust cover by turning it counterclockwise.
5. Remove the **01744** Silencer.
6. Pull the air motor out of the **01739** Motor Housing.
7. Remove the motor housing from the vise.
8. Fasten the **96346** Bearing Separator (2") around the portion of the **01028** Cylinder that is closest to the **01743** Bearing Plate.
9. Place the motor with the separator attached on the table of the **96232** Arbor Press (#2) so that the threaded stem of the rotor is pointing down. Use a 3/16" dia. flat end drive punch as a press tool to push the rear stem of the **55025** Rotor out of the **02649** Bearing.
10. Use the **96213** Bearing Removal Tool and the arbor press to remove the **02649** Bearing from the **01743** Bearing Plate.
11. Hold the blade slot portion of the **55025** Rotor in a vise with aluminum or bronze jaws so that the threaded stem of the rotor is pointing up.
12. Use an adjustable open-end wrench to remove the **01708** Rotor Nut from the rotor by turning it counterclockwise.
13. Slip the **01008** bearing plate, **01007** Bearing, shims and **01010** Spacer from the rotor.

Motor Disassembly Complete.

Valve Disassembly:

1. Shut the air supply and disconnect the tool from the air supply hose.
2. Position the valve housing in a vise so that the air inlet is pointing up.
3. Hold the **01494** Inlet Bushing stationary with an adjustable wrench while removing the air fitting.
4. Use a wrench to remove the air inlet bushing from the valve housing.
5. Remove the **01468** Spring, **01472** Tip Valve, and **01464** Seal from the valve housing.
6. Use a 2.5mm drive punch to remove the **12132** Pin and the throttle lever from the valve housing.
7. Remove the **95558** Retaining Ring with retaining ring pliers.
8. Push the **01469** Speed Regulator Assembly out of the housing and remove the **01449** Valve Stem.

Valve Disassembly Complete.

Important: Clean and inspect all of the parts for wear before assembling.

Valve Assembly:

1. Install the **01469** Speed Regulator Assembly (includes o-rings) into the valve housing and hold it in place with the **95558** Retaining Ring.
2. Insert the **01449** Valve Stem so that the hole in the valve stem is visible through the air inlet opening.
3. Install the **01464** Seal into the air inlet opening of the valve housing so that it lays flat.
4. Use a needle nose pliers to install the **01472** Tip Valve into the air inlet opening so that the metal pin of the tip valve passes through the hole in the valve stem.
5. Place the smaller end of the **01468** Spring into the air inlet opening so that it fits onto the back of the **01472** Valve Stem.
6. Apply a small amount of the Loctite #567 (or equivalent) to the threads of the **01494** Inlet Bushing and install it into the valve housing. (Torque to 23 N•m/200 in. lbs.)
7. Install the throttle lever and hold it in place with the **12132** Pin.
8. Hold the **01494** Inlet Bushing stationary with an adjustable wrench while installing the air fitting.

Valve Assembly Complete.

Motor Assembly:

1. Hold the blade slot portion of the **55025** Rotor in a vise with aluminum or bronze jaws so that the threaded stem of the rotor is pointing up.
2. Install the **01010** Spacer onto the rotor.
3. Select .003" (.08mm) thickness in shims from the **01121** Shim Pack and install these into the **01008** Bearing Plate.
4. Install the **01007** Bearing into the **01008** Bearing Plate.
5. Slip this assembly down onto the **55025** Rotor and hold it in place with the **01708** Rotor Nut. (Torque to 17 N•m/150 in. lbs.)
6. Check the rotor/plate clearance with a .001" (0.03mm) feeler gage. The clearance should be .001"-.0015" (0.03-0.04mm). If the rotor/plate clearance needs further adjustment, repeat steps 3-6 and shim as required.
7. Once the proper rotor/plate clearance is achieved, install the **01185** Blades (4) that have been lubricated with the **95842** Dynabrade Air Lube (10W/NR or equivalent).
8. Install the **01028** Cylinder so that the air inlet opening in the **01743** Bearing Plate will align with the air inlet opening in the cylinder.
9. Use the **96240** Bearing Press Tool and the **96232** Arbor Press to install the **02649** Bearing into the **01743** Bearing Plate. Position the press tool so that it is resting against the outer race of the bearing when pressing the bearing into the bearing plate.

(continued on next page)

10. Use the opposite end of the 96240 Bearing Press Tool to install the bearing/plate assembly onto the 55025 Rotor. Position the press tool so that it is resting against the inner race of the bearing when pressing the bearing/plate assembly onto the rotor. **Note:** Press the assembly together only until the 01743 Bearing Plate comes in contact with the 01028 Cylinder. This should create a snug fit between the bearing plates and the cylinder. A loose fit will not achieve the proper preload of the motor bearings.
11. Install the air motor into the 01739 Motor Housing.
12. Use the 52296 Repair Collar to carefully hold the 01739 Motor Housing in a vise with aluminum or bronze jaws. Hold the back portion of the housing opposite the lock ring so as not to crush the housing and so that the motor opening is pointing up.
13. Install the 01744 Silencer into the exhaust cover.
14. Apply a small amount of the Loctite #567 to the threads of the 01447 Housing. Use an adjustable open-end wrench to install the exhaust cover. (Torque to 34 N•m/300 in. lbs.)
15. Install the collet assembly.

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.
Note: Throttle lever is preset at the factory at an 11:00 o'clock position.

Throttle Lever Positioning Procedure:

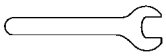
1. Hold the flats of the valve housing in a vise with aluminum or bronze jaws so that the 01739 Motor Housing is pointing up.
2. Slip the 01558 Collar down onto the valve housing to expose the 01461 Lock Nut.
3. With a firm hold on the 01739 Housing, use a 34mm or an adjustable wrench to turn the 01461 Lock Nut counterclockwise to loosen the 01739 Housing from the valve housing.
4. Orient the throttle lever to the operators desired grip and positioning. **Note:** Allow for additional rotation of the 01739 Housing as the 01461 Lock Nut is tightened.
5. With a firm hold on the 01739 Housing to reduce its rotation, use a 34mm or an adjustable wrench to tighten the 01461 Lock Nut. (Torque to 45 N•m/400 in. lbs.)

Loctite is a registered trademark of the Loctite Corp.

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.

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

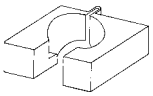


Open-End Wrenches
95262 – 14mm open-end.
95281 – 19mm open-end.

53163 Side Handle
- Improved ergonomic feel with grip-traction to reduce hand fatigue.
- 5/16"-18 Thread

Special Repair Tools Mentioned in Text:
52296 Repair Collar
96346 Bearing Separator
96232 Arbor Press
96213 Bearing Removal Tool
96240 Bearing Press Tool

96045 Motor Tune-Up Kit
- Includes assorted parts to help maintain and repair motor.



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

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)

Visit Our Web Site: www.dynabrade.com

Email: Customer.Service@Dynabrade.com

DYNABRADE®

DYNABRADE, INC., 8989 Sheridan Drive • Clarence, New York 14031-1490 • Telephone: (716) 631-0100 • Fax: 716-631-2073 • International Fax: 71-231-2524
DYNABRADE EUROPE s.a.r.l., Zone Artisanale • L-5485 Wormeldange—Haut, Luxembourg • Telephone: 352 76 84 94 1 • Fax: 352 76 84 95 1

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