



## 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. **Check the governor of this tool on a regular basis, the governor is preset at the factory to maintain the maximum rated speed for the tool, if any inconsistency is found in the operating speed the tool must not be used and must be further tested by a Dynabrade factory technician.**
3. Some silencers on air tools may clog with use. Clean and replace as required.
4. 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.
5. 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.
6. Use only genuine Dynabrade replacement parts. To reorder replacement parts, specify the **Model #**, **Serial #**, and **RPM** of your machine.
7. A Motor Tune-Up Kit (P/N **96047**) is available which includes assorted parts to help maintain motor in peak operating condition.
8. 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, sanding pads, rotor blades, etc., are not covered under this warranty.

Model Number	Motor HP (W)	Motor RPM	Air Inlet Thread	Sound Level	Air Flow Rate CFM/SCFM (LPM)	Air Pressure PSIG (Bars)	Spindle Thread	Weight Pound (kg)	Length Inch (mm)	Height Inch (mm)
<b>50320</b>	.58 (433)	8,000	1/4 NPT	72 dB(A)	4/30 (850)	90 (6.2)	5/8"-11 male	2.2 (1.0)	6-5/8 (168)	5-5/8 (143)
<b>50321</b>	.75 (559)	11,000	1/4 NPT	72 dB(A)	4/32 (906)	90 (6.2)	5/8"-11 male	2.2 (1.0)	6-5/8 (168)	5-5/8 (143)
<b>50324</b>	.75 (559)	11,000	1/4 NPT	72 dB(A)	4/32 (906)	90 (6.2)	3/8"-24 female	2.2 (1.0)	6-5/8 (168)	5-5/8 (143)
<b>50325</b>	.75 (559)	11,000	1/4 NPT	72 dB(A)	4/32 (906)	90 (6.2)	3/8"-24 female	2.2 (1.0)	6-5/8 (168)	5-5/8 (143)

Additional Specifications: Hose I.D. Size 3/8" (10mm)

(PD07\*29)

## Disassembly/Assembly Instructions

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

**Warning:** The governor in this tool is preset at the factory to maintain the maximum rated speed for the tool, any repairs to this assembly should be done at the Dynabrade factory. A Motor Tune-Up Kit is available (P/N 96047) to help maintain motor in peak operating condition.

**Warning:** This pistol Grip Tool is equipped with a governor that requires FACTORY PRECISION ADJUSTMENT if the governor needs servicing, the complete tool must be returned to the factory for proper adjustment of the governor.

### To Disassemble:

1. Remove disc mount assembly or Roloc® Pad and 53163 Side Handle.
2. Place machine housing in soft jaw vise. **Important:** Be careful not to over tighten vise to prevent damage.
3. Turn 55029 Cover clockwise (left hand threads) and remove.
4. Pull motor assembly from housing.
5. Remove 56028 Muffler Cap. Use a 12mm hex key to unscrew 57066 Muffler Body and 57075 Cone Muffler from housing.
6. Unscrew 56023 Inlet Bushing and remove.

### Motor Disassembly:

1. Secure motor in a vise using flats on 55034 or 55038 Adapter.
2. Remove the governor assembly by turning it clockwise. **(Left Hand Thread)**  
**Important:** SAVE ALL SHIMS that are found between the governor and the rotor. The exact total thickness of these shims is necessary to maintain the correct spacing and function of the governor. These shims must be installed between the governor and rotor when the air motor is assembled.
3. Press rotor from 02649 Bearing and 01743 Bearing Plate.
4. Press 02649 Bearing from 01743 Bearing Plate.
5. Remove 01028 Cylinder and 01185 Blades (4) from rotor.
6. Secure 55025 Rotor in soft jaw vise.
7. Unscrew 55034 or 55038 Adapter and remove from rotor.
8. Remove 01007 Front Bearing, 55026 Bearing Plate and 01010 Spacer from rotor.
9. Remove 01007 Bearing and any shims from 55026 Bearing Plate.

### Valve Disassembly:

1. Drive 96025 Pin through housing and remove valve assembly from housing.
2. Remove 96025 Pin from housing.
3. Remove trigger/valve assembly from housing.
4. Remove first 55051 Valve Stop (Press valve stem from valve stop, be careful not to damage 55041 Valve. A small bearing puller is recommended).
5. Remove 55041 Valve and separate.
6. Press 55042 Valve Stem through the second 55051 Valve Stop.

### Motor Assembly:

**Important:** Be certain all parts are cleaned, properly greased and in good repair before assembling.

1. Install 01007 Front Bearing into 55026 Bearing Plate. (**Note:** Shimming may be required in upcoming steps).
2. Install 01010 Spacer on rotor.
3. Install bearing assembly onto rotor and spacer.
4. Secure 55025 Rotor in padded vise.
5. Screw 55034 or 55038 Adapter onto 55025 Rotor, torque to 17 N•m/150 in. - lbs.
6. Use a .001" thick feeler gauge to set clearance between the 55026 Bearing Plate and 55025 Rotor.  
**Note:** If shimming is required, use the 01121 Shim Pack accordingly to shim between the 01007 Bearing and 55026 Bearing Plate to obtain a .001" clearance between the bearing plate and rotor.
7. Install 01185 Blades (4) onto 55025 Rotor. (**Note:** Blades should be lubricated with Dynabrade Air Lube P/N 95842 or equivalent before installation).
8. Install 01028 Cylinder over 55025 Rotor and onto 55026 Bearing Plate. Be sure to line up 50767 Pin in 55026 Bearing Plate with hole in 01028 Cylinder  
**Note:** Air inlet holes in cylinder should face away from 55026 Bearing Plate.
9. Press 02649 Bearing into 01743 Bearing Plate.
10. Press bearing and bearing plate onto rotor. Be sure 50767 Pin in 01743 Bearing Plate lines up with hole in 01028 Cylinder.  
**Important:** The fit must be snug between bearing plates and cylinder. If too tight, rotor will not turn freely. Rotor must then be lightly tapped at short end so it will turn freely while still maintaining a snug fit. A loose fit will not achieve the proper pre-load of the motor bearings.
11. Place motor in vise using flats on 55034 or 55038 Adapter.
12. **Important:** INSTALL ALL SHIMS that were saved from between the governor and the rotor. The exact total thickness of these shims is necessary to maintain the correct spacing and function of the governor. DO NOT ASSEMBLE the air motor if the correct spacing has been compromised in any way. If the shims have been lost or if damage has occurred to the governor or to the mating area of the governor in the housing, the tool must be returned to the factory for proper spacing and replacement of the lost or damaged component(s). Apply a small amount of the Loctite® #567 (or equivalent) to the threads of the governor cage and install the governor assembly onto the rotor. Tighten by turning counterclockwise. **(Left Hand Threads)**  
(Torque to 10N•m/90 in.-lbs.)

### Valve Assembly:

1. Slide 55039 Bushing (with o-rings) onto valve stem/trigger assembly.
2. Press 55051 Valve Stop onto 55052 Valve Stem large end out.
3. Install 55041 Valve onto valve stem.
4. Install 96147 O-Ring onto the 55051 Valve Stop.
5. Press 55051 Valve Stop onto valve stem with o-ringed end facing valve. Press valve stop until flush with valve stem end.
6. Reinsert into housing and replace 96025 Pin.

## Disassembly/Assembly Instructions (continued)

### To Assemble:

1. Place machine housing in soft jaw vise. Be sure not to over tighten to prevent damage.
2. Install motor assembly into housing.
3. Screw **55029** Cover onto housing turning counterclockwise. Torque to 28 N•m/250 in. - lbs.
4. Replace **57066** Muffler Body.
5. Replace **56028** Muffler Cap onto muffler body.
6. Apply a small amount of #271 Loctite® (or equivalent) to the threads of **56023** Inlet Bushing. Install inlet bushing into housing torque 23 N•m/200 in. - lbs.
7. Lubricate motor by applying 2 or 3 drops of Dynabrade Air Lube P/N **95842** (or equivalent) into air inlet.
8. Complete assembling by remounting Disc assembly or Roloc® Pad and **53163** Side Handle.

**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. Loctite® is a registered trademark of Loctite Corp.

## 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



### 96047 Motor Tune-Up Kit

- Includes assorted parts to help maintain and repair motor.

## Abrasives



4" Disc Unit = 100 Discs

4" Diameter Scotch-Brite Roloc Discs			
Grit	Medium	Coarse	SE
Part No.	90868	90867	90863
4" Dia. Regalite Polycut 785C Roloc Discs			
Grit	36	60	80
Part No.	92047	92049	92050



Unit = 100 Discs

4-1/2" Ceramic Coated Aluminum Oxide Discs Flange Mounted / 5/8" Center Hole				
Grit	50	80	100	120
Part No.	92052	92053	92054	92055

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