

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 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.
- All Dynabrade air motors should be lubricated. Dynabrade recommends one drop of air lube per minute for each 10 SCFM (example : if the tool specification state 40 SCFM, set the drip rate of your filter-lubricator at 4 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: 11289 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 CFM @ 100 PSI 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 tine-up kit (P/N 96260) 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.

Machine Number	Length Inch (mm)	Tool Diameter Inch (mm)	Weight Pound (kg)	Spindle Thread	Air Flow Rate SCFM (LPM)	Sound Level	Motor HP (W)	Motor RPM
52101 / 52104	9-1/2" (241)	1-3/4" (44)	2.7 lbs. (1.22)	1/2"-20 male	34.5 (977)	82 dBA	.69 (470)	3,400
52102 / 52105	9-1/2" (241)	1-3/4" (44)	2.7 lbs. (1.22)	1/2"-20 male	34.5 (977)	82 dBA	.70 (522)	4,500

Additional specifications: Air Inlet Thread 1/4" (6 mm) NPT • Hose Size 3/8" (9 mm) • 90 PSI (6.2 Bars)

Disassembly/Assembly Instructions - Dynastraight

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

Please refer to parts breakdown for part identification.

Motor Disassembly:

- 1. Disconnect tool from power source. Remove collet assembly.
- 2. Secure air tool in padded vise. Roll back 53175 Rubber Collar.
- 3. With an adjustable pin wrench, remove 53186 Planetary Housing by turning counter-clockwise.
- 4. Pull 53181 Adapter and first planetary carrier assembly from 53186 Planetary Housing.
- 5. Press planetary carrier assembly from rear 02552 Bearing. Remove ring gear and gears from 53180 Planetary Carrier.
- 6. Secure planetary carrier in vise and remove 53181 Adapter. Press carrier from front 02552 Bearing. Remove 53179 Spacer.
- 7. Grab onto pinion and pull motor assembly from motor housing.
- 8. Press 53178 Rotor from 01721 Rear Bearing Plate. Press 02649 Rear Bearing from rear bearing plate.
- 9. Remove cylinder and rotor blades from rotor.
- 10. Secure rotor in vise and remove pinion from rotor by inserting a 3 mm drift pin through hole in pinion and twist off (right hand threads).
- 11. Press pinion and rotor through 53174 Front Bearing and 53171 Front Bearing Plate.

Motor disassembly complete.

Valve Body Disassembly:

- 1. Position valve body in padded vise with air inlet facing up.
- 2. Remove air fitting by securing 94523 Inlet Adapter with a wrench and twist air fitting from inlet adapter.
- Important: 94523 Inlet Adapter must be secured before attempting to remove air fitting to avoid damaging valve body housing.
- 3. Remove 94523 Inlet Adapter.
- 4. Remove 95711 Retaining Ring from inlet adapter and separate 94521 Muffler Base from 94522 Muffler Cap. Remove sintered muffler and felt muffler.
- 5. Remove 01564 Air Control Ring from valve body. Using needle nose pliers, remove 01468 Spring, tip valve and seal.
- 6. Using a 2.5 mm drift pin, tap 01017 Pin from housing and remove throttle lever.
- 7. Remove 95558 Retaining Ring. Push 01247 Regulator from valve body and remove O-rings.

Disassembly complete.

Motor Reassembly:

Important: Be sure parts are clean and in good repair before reassembly. Follow all grease, oil, and torque specifications.

- 1. Place 53171 Front Bearing Plate onto front end of 53178 Rotor (threaded end). Press 53174 Front Bearing onto rotor and front bearing plate.
- 2. Secure rotor in padded vise with threaded spindle facing up. Apply one drop of #271 Loctite® (or equivalent) to threads of rotor. Using a 3mm drift pin, tighten pinion onto rotor (torque 17.0 N•m/150 in. lbs.).
- 3. Apply one drop of #609 Loctite® (or equivalent) to outer race of 02649 Rear Bearing and slip bearing into bearing plate.
- 4. Install well lubricated blades into rotor slots. Dynabrade recommends using their 95842 Dynabrade Air Lube.
- 5. Install cylinder over rotor with air inlet hole in cylinder wall facing away from front bearing plate.
- 6. Press 01721 Rear Bearing Plate on to rotor. Be sure that pin and air inlet hole in cylinder line up with air inlet hole and pin hole in bearing plate.
- 7. Install motor assembly into motor housing. Place 53179 Spacer on top of motor.
- 8. Press Front 02552 Bearing onto front end of first 53180 Planetary Carrier.
- 9. Install gears, 04026 Bearings and 53182 Gear Shafts onto planetary carrier.
- 10. Slip 53191 Ring Gear over gears and press rear 02552 Bearing onto planetary carrier.
- 11. Apply one drop of #271 Loctite® to threads of 53181 Adapter. Install adapter onto planetary carrier (torque 17.0 N•m/150 in. lbs.).
- 12. Install 53186 Planetary Housing onto housing to secure motor (torque 28 N•m/250 in. lbs.).
- 13. Roll back 53175 Collar and install collet assembly.

Motor Reassembly Complete.

Valve Body Reassembly:

- 1. Insert 01247 Regulator with O-rings and valve stem in place into valve body. Secure with 95558 Retaining Ring.
- 2. Secure valve body in padded vise with air inlet facing upwards. Insert 01464 Seal.
- 3. Line up hole in valve stem with hole in housing (looking past brass bushing). Insert 01472 Tip Valve so that the metal pin passes through the hole in the valve stem. Install 01468 Spring (small end towards tip valve).
- 4. Assemble sintered muffler and felt muffler together and place in 94522 Muffler Cap. Install 94521 Muffler Base onto muffler cap.
- 5. Install 95438 O-ring into groove on muffler base. Place 95375 O-Ring and 94526 Spacer into recessed area of muffler cap.
- 6. Slip 94523 Inlet Adapter through muffler assembly and install 95711 Retainer Ring into groove on inlet adapter.
- 7. Install 01564 Air Control Ring into valve body housing.
- 8. Apply Hernon #940 PST Pipe Sealant to threads of 94523 Inlet Adapter and install entire muffler assembly onto valve body (torque 23.0 N•m/200 in. Ibs.).
- 9. Replace air fitting. Secure inlet adapter with a wrench before tightening air fitting. Install throttle lever and 01017 Pin.

Tool Assembly is complete. Please allow 30 minutes for adhesives to cure before operating tool.

Important: Motor should now be tested for proper operation at 90 PSI. 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.

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



96260 Motor Tune-Up Kit

• Includes assorted parts to help maintain motor in tip-top shape.

Wrenches





Visit our new Web Site via Industry.Net MROP On-Line: http://www.dynabrade.industry.net

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