Parts Page Reorder No. PD98•35
Effective October, 1998

Models:
51474 – 2,000 RPM Basic
51476 – 3,100 RPM Basic
51479 – 2,000 RPM Deluxe
51482 – 3,100 RPM Deluxe

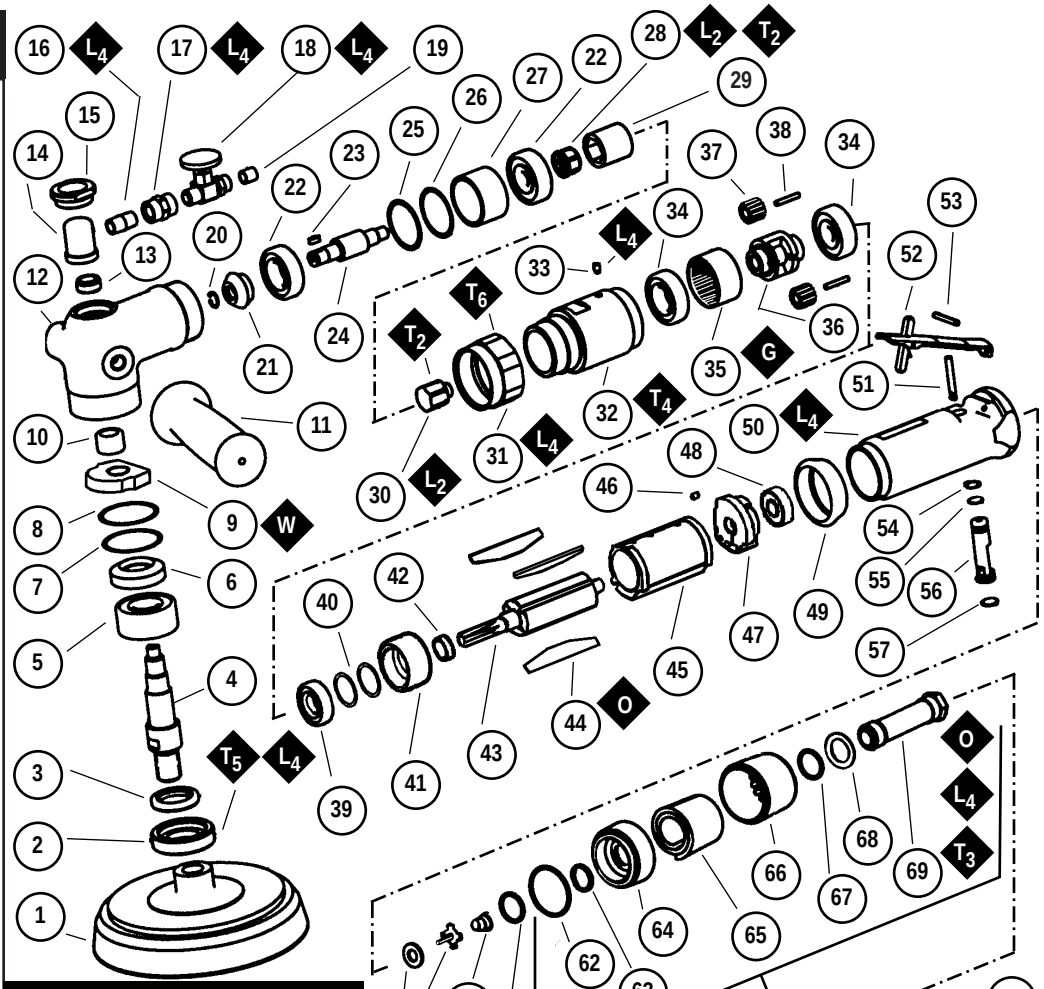
Wet Sander/Polisher

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.**

Index Key

No.	Part	Description
1		Optional Pads on pg. 4
2	**50963**	Retainer
3	**50899**	Shaft Seal
4	**50983**	Spindle Assy.
5	**50887**	Bearing
6	**50997**	Bevel Gear - 2,000 RPM
	50996	Bevel Gear - 3,100 RPM
7	**96306**	Shim (as req.)
8	**96307**	Shim (as req.)
9	**02048**	Wick
10	**96325**	Shell Bearing
11	**53163**	Handle Assy.
12	**50981**	Head Assy.
13	**96324**	Shaft Seal
14	**50988**	Inlet Block
15	**50989**	Spindle Cover
16	**95759**	Close Nipple
17	**95760**	Coupling
18	**95761**	Needle Valve
19	**95841**	Ferrule (Inc. **95761** Valve)
20	**95939**	Retaining Ring
21	**52158**	Bevel-Pinion-2,000 RPM
	52124	Bevel-Pinion-3,100 RPM
22	**01266**	Bearing
23	**50435**	Key
24	**50985**	Pinion Shaft
25	**07154**	Shim (as req.)
26	**07155**	Shim (as req.)
27	**50986**	Spacer
28	**53551**	Coupling Nut
29	**50951**	Coupler
30	**50956**	Adapter
31	**50987**	Lock Ring
32	**50970**	Gear Casing Assy.
33	**04014**	Screw
34	**02552**	Bearing
35	**53191**	Ring Gear
36	**53180**	Planetary Carrier
37	**53193**	Gear
38	**53182**	Gear Shaft
39	**01007**	Bearing
40	**01121**	Shim Pack (as req.)
41	**53183**	Front Bearing Plate
42	**01010**	Spacer
43	**04017**	Rotor
44	**01185**	Blades (4)
45	**01028**	Cylinder
46	**50767**	Pin
47	**01721**	Rear Bearing Plate
48	**02649**	Bearing
49	**53175**	Collar
50	**51489**	Housing - **51474**
	51491	Housing - **51476**
	51494	Housing - **51479**
	51497	Housing - **51482**
51	**01477**	Valve Stem
52	**01089**	Throttle Lever
53	**01017**	Spring Pin
54	**95558**	Retaining Ring
55	**95730**	O-Ring
56	**01247**	Speed Regulator
57	**01024**	O-Ring
58	**01464**	Seal
59	**01472**	Tip Valve



Index Key

No.	Part	Description
60	**01468**	Spring
61	**01564**	Air Control Ring
62	**95438**	O-Ring
63	**95711**	Retaining Ring
64	**94521**	Muffler Base
65	**94528**	Muffler
66	**94522**	Muffler Cap
67	**95375**	O-Ring
68	**94526**	Spacer
69	**94523**	Inlet Adapter
70	**94519**	Muffler Assy.
71	**96323**	Air Line Assy.
72	**95884**	Hose Clamp
73	**96302**	Exhaust Hose Assy.
74	**96303**	Basic Wet Assy.
75	**95955**	Hose
76	**95962**	Quick Coupler
77	**95963**	Female Connector
78	**95965**	Valve Assy.
79	**95964**	Hose Bib Assy.
80	**96298**	Deluxe Water Line Assy.
81	**95579**	Waterline Assy.
82	**95430**	Fitting
		Deluxe Models incl. #74 and #80

KEY

O Oil G **95542** Grease W **94848** Gear Oil

L Loctite/Hernon:
L_2 = Loctite #567 L_4 = Loctite #567

T Torque: N•m x 8.85 = In. - lbs. **T_2 = 17 N•m, T_3 = 23 N•m, T_4 = 28 N•m, T_5 = 34 N•m, T_6 = 45 N•m**

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.
3. 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: **11411** Air Line Filter-Regulator-Lubricator — Provides accurate air pressure regulation, two-stage filtration of water contaminants and micro-mist lubrication of pneumatic components. Operates up to 100 CFM @ 100 PSI has 1/2" NPT female ports.
5. Lubricate planetary gears through **50970** Gear Casing grease fitting ever **50 hours** of use for maximum gear life.
6. Lubricate **02048** Wick System through angle gear head grease fitting ever **8 hours** of use for maximum gear life. **Important:** Use recommended angle gear oil only for wick system. Do not contaminate wick with any other oil or grease product (Order **95848** Gear Oil and **95541** Gun).
7. Use only genuine Dynabrade replacement parts. To reorder replacement parts, specify the **Model #**, **Serial #** and **RPM** of your machine.
8. A motor tune-up kit (P/N **96178**) is available which includes assorted parts to help maintain motor in peek operating condition. Please refer to Dynabrade's Preventative Maintenance Schedule for a guide to expectant life of component parts.
9. A lubrication accessory kit (P/N **50790**) is available which contains Dynabrade's **95542** Grease, **95541** Lubrication Gun (2) and **95848** Gear Oil.
10. 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	Length Inch (mm)	Height Inch (mm)	Weight Pound (kg)	Air Flow Rate SCFM (LPM)	Sound Level	Motor HP (W)	Motor RPM	Air Pressure PSI (BArs)
51474	13.0" (330)	4"(102)	5.4 (24)	43 (1218)	82 dBA	.7 (522)	2,000	90 (6.2)
51476	13.0" (330)	4"(102)	5.4 (24)	43 (1218)	80 dBA	.73 (522)	3,100	90 (6.2)
51479	13.0" (330)	4.6"(117)	7.9 (35)	43 (1218)	79 dBA	.7 (522)	2,000	90 (6.2)
51482	13.0" (330)	4.6"(117)	7.9 (35)	43 (1218)	79 dBA	.73 (522)	3,100	90 (6.2)

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

Disassembly/Assembly Instructions - Sander / Polisher

Important: Manufacturer's warranty is void if tool is disassembled before warranty expires.
Please refer to parts breakdown for part identification.

Motor and Gear Casing Disassembly:

1. **Important:** inlet adapter must be secured before attempting to remove air fitting to avoid damaging composite motor housing.
2. Disconnect tool from power source, and secure motor housing, using the two molded flats, in a padded vise.
3. Remove **50970** Gear Casing Assembly using 40mm wrench flats provided.
4. Remove **04014** Set Screw from gear casing.
5. Push **50956** Hex Adapter through **50970** Gear Casing Assembly.
6. Remove **02552** Bearing from planetary assembly (opposite end from hex adapter).
7. Remove **53191** Ring Gear and spur gears from **53180** Planetary Carrier.
8. Secure planetary carrier in vise and remove **50956** Hex Adapter. Press carrier through **02552** Bearing.
9. Grab onto pinion gear and pull **53169** Motor Assembly from motor housing.
10. Secure **01028** Cylinder and press **04017** Rotor through **01721** Rear Bearing Plate.
11. Press **04017** Rotor through **53183** Front Bearing Plate and remove **01010** Spacer, **01007** Bearing and shims.

Motor Disassembly complete.

Motor Housing Disassembly:

1. Secure motor housing, using the two molded flats in a padded vise, with the air inlet facing upwards.
2. Remove **94519** Muffler assembly from motor housing.
3. Remove **01564** Air Control Ring, **01468** Spring, **01472** Tip Valve and **01464** Seal from motor housing.
4. Using a 2.5mm drift pin, tap **01017** Spring from housing and remove **01089** Throttle Lever and **01477** Valve Stem.
5. Remove **95558** Retaining Ring. Push **01247** Speed Regulator Assembly from housing.

Motor housing disassembly complete.

Right-Angle Housing and Spindle Disassembly:

1. Secure housing in a padded vise, and remove **50987** Lock Ring (left-hand thread) using 44mm wrench flats.
2. Remove **50951** Coupler and pull **53351** Coupling Nut and pinion assembly from housing.
3. Secure pinion in a padded vise and remove **53551** Coupling Nut, remove **01266** Bearing, **50986** Spacer and shims.
4. Secure **01266** Bearing and push **50985** Pinion Shaft through pinion and bearing, remove **50435** Key.
5. Secure housing in a padded vise with spindle facing upwards.
6. Remove **50963** Retainer using an adjustable pin wrench (left-hand thread).
7. Pull spindle assembly from angle-housing. Remove shims and **02048** Wick from housing.
8. Secure **50887** Bearing and push spindle through bevel gear and bearing.
9. Remove **96325** Shell Bearing using **57099** Bearing Puller.

Angle-Housing disassembly complete.

Motor and Gear Casing Reassembly:

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

1. Place **04017** Rotor in padded vise with threaded spindle facing upwards.
2. Slip **01010** Spacer onto **04017** Rotor.
3. Place a .002" shim into **53183** Front Bearing Plate as an initial spacing and slip **01007** Bearing into plate. **Note: 01121** Shim Pak contains .001" and .002" shims.
4. Press bearing/bearing plate assembly onto rotor.
5. Check clearance between rotor and bearing plate by using a .001" feeler gauge. Clearance should be at .001" to .0015". Adjust clearance by repeating steps 2-4 with different shim if necessary.
6. Once proper rotor gap clearance is achieved, install well lubricated **01185** Blades (4) into rotor slots. Dynabrade recommends using their **95842** Air Lube.
7. Install cylinder over rotor/pinion. Be sure air inlet holes of cylinder face away from **53183** Front Bearing Plate.
8. Press **02649** Rear Bearing into **01721** Rear Bearing Plate. Press bearing/bearing plate assembly onto rotor. Be sure that pin and air inlet holes line up with pin slot and air inlet holes in cylinder.
   Important: Fit must be snug between bearing plates and cylinder. If too tight, rotor will not turn freely. Rotor must then be lightly tapped at press fit end so it will turn freely while still maintaining a snug fit. A loose fit will not achieve the proper preload of motor bearings.
10. Secure motor housing in padded vise so motor cavity faces upwards. Install motor assembly into housing. Be sure motor inlet is facing the handle and it drops all the way into housing
11. Press front **02552** Bearing onto front end of **53180** Planetary Carrier.
12. Apply #271 Loctite® to **50956** Hex Adapter and install onto **53180** Planetary Carrier (torque 17.0 N•m/150 in. - lbs.).
13. Install **53193** Gears, **04026** Bearings and **53182** Gear Shafts onto planetary carrier.
14. Slip **53191** Ring Gear over gears and press rear **02552** Bearing onto planetary carrier.
15. Install planetary carrier assembly into **50970** Gear Casing by aligning the slot in **53191** Ring Gear with set screw hole.
16. Apply #567 Loctite (or equivalent) to **04014** Set Screw and install into **50970** Gear Casing.
17. Apply two drops of #271 Loctite adhesive to motor housing threads.
18. Install gear casing sub-assembly onto motor housing to secure motor, torque 28 N•m/250 in-lbs.

Disassembly/Assembly Instructions - Sander / Polisher (continued)

Motor Housing Reassembly:

1. Insert **01247** Regulator with o-rings and valve stem, place into motor housing. Secure with **95558** Retaining Ring.
2. Secure valve body in padded vise with 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 felt muffler and place in **94522** Muffler Cap. Install **94521** Muffler Base onto muffler cap.
5. Install **94538** 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 #567 Loctite Pipe Sealant to threads of **94523** Inlet Adapter and install entire muffler assembly onto valve body (torque 23.0 N•m/200 in-lbs.).
9. Replace air fitting. Secure inlet adapter with a wrench before tightening air fitting. Install throttle lever and **01017** Pin.

Right-Angle Housing and Spindle Reassembly:

1. Secure **50985** Pinion Shaft in padded vise with key slot end up. Install **02552** Bearing onto pinion shaft.
2. Press pinion gear onto pinion shaft with **50435** Key in key slot. replace **95939** Retaining Ring.
3. Secure pinion in padded vise and install **50986** Spacer, **01266** Bearing and **53551** Coupling Nut.
4. The 50986 Spacer must fit snug between the two **01266** Bearings (shim required to achieve a snug fit).
5. Apply #271 Loctite adhesive to spindle thread and install **53551** Coupling Nut (torque 17 N•m/150 in-lbs.).
6. Install **96235** Shell Bearing into angle housing and insert pinion/shaft assembly.
7. Apply #567 Loctite to angle housing and install **50987** Lock Ring (left-hand thread, 44mm wrench flats).
8. Insert **50951** Coupling over **53551** Coupling Nut.
9. Install **50987** Lock Ring and angle housing sub-assembly onto **50970** Gear Casing. Take care in the aligning of the two male hex adapters to the **50951** Coupling (torque 45 N•m/400 in-lbs.).
10. Press **50887** Bearing and bevel gear onto spindle assembly.
11. Secure angle housing with drive spindle cavity facing upward and install well lubricated **02048** Wick (wick must be completely saturated with **95848** Gear Oil before installation). Note: Do not contaminate wick with any other oil or grease product.
12. Insert spindle assembly and check for gear alignment and backlash. Install shims as required (Minimum backlash is recommended for maximum gear life. Make sure there is clearance throughout 360° revolution.).
13. Install **50963** Retainer with **50899** Shaft seal in place (left-hand thread), torque 34 N•m/300 in-lbs.

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.

Accessories



96178 Motor Tune-Up Kit

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

Visit our new Web Site at http://www.dynabrade.com

DYNABRADE®

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