

For Serial Number 7H2542 and Higher

**KEY**

- O** Oil    **G** Grease    **N/UP** New/Updated Part or Assy.
- L** Loctite/Hernon: L<sub>2</sub> = Loctite #271  
L<sub>3</sub> = Loctite #609, L<sub>4</sub> = Hernon #940
- T** Torque: N•m x 8.85 = In. - lbs.  
T<sub>2</sub> = 17 N•m, T<sub>3</sub> = 23 N•m, T<sub>4</sub> = 28 N•m

Parts Page Reorder No. PD97•55  
Effective September, 1997  
Supersedes PD96•63

# .3 Hp/7°/Rear Exhaust Buffer

Air Motor and Machine Parts

## ! WARNING

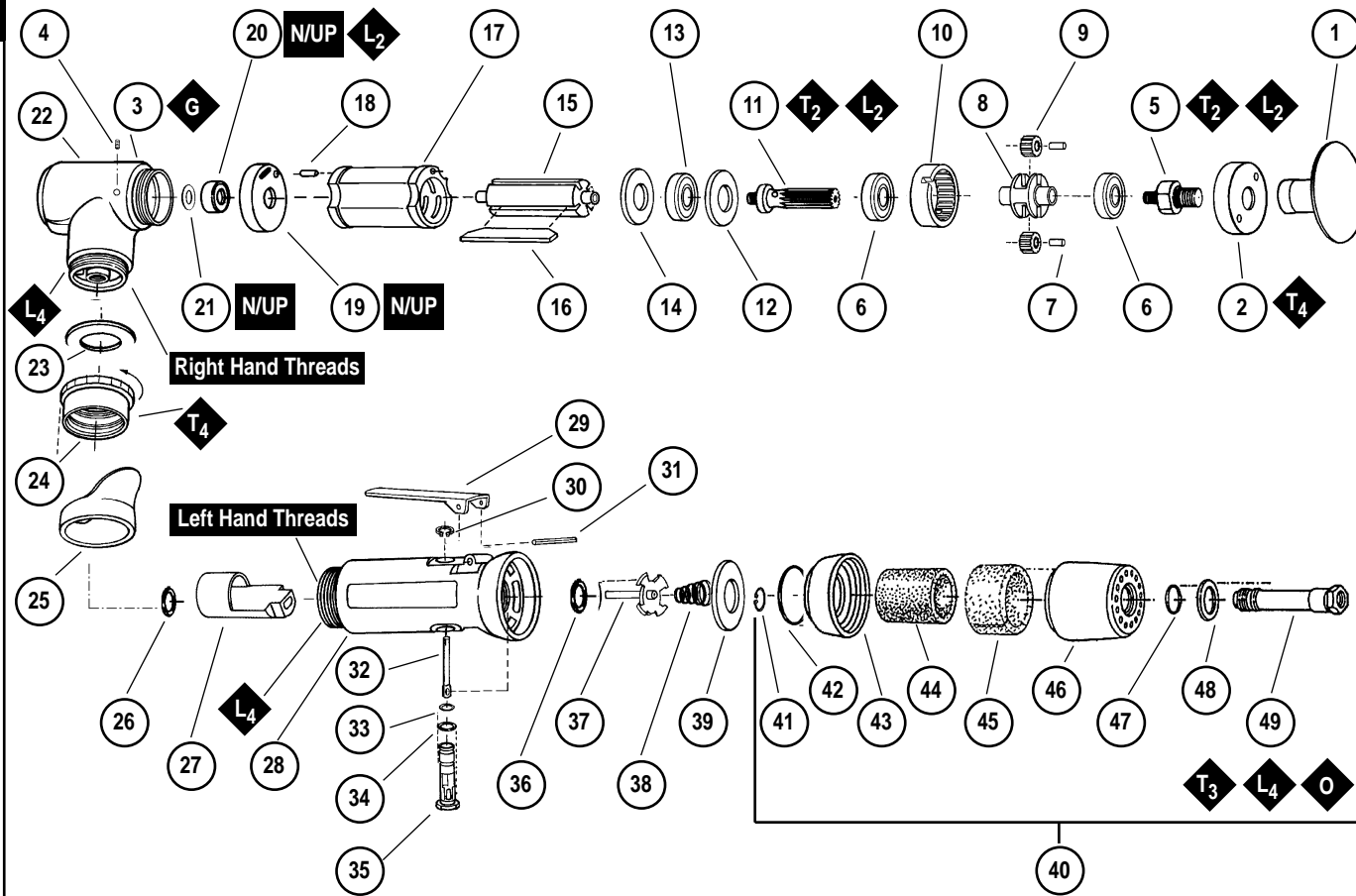
Always operate, inspect and maintain this tool in accordance with the Safety Code for portable air tools (ANSI B186.1) and any other applicable safety codes and regulations. Please refer to Dynabrade's Warning/Safety Operating Instructions for more complete safety information. See inside for Important Operating, Maintenance and Safety Instructions.

### New/Updated Parts - Effective Serial Number 7H2542 and Higher

02696 Bearing Replaces 02650 Bearing. • 02673 Rear Bearing Plate Replaces 01474 Rear Bearing Plate. • 02679 Shield added.

### Index Key

No.	Part #	Description	No.	Part #	Description
1	50126	Backing Pad	26	95523	O-Ring
2	50781	Rear Exhaust Cover	27	01470	Insert
3	01041	Grease Fitting	28	02100	Housing - 51400
4	50784	Set Screw		02101	Housing - 51401
5	50782	Adapter		02102	Housing - 51430
6	54552	Bearing	29	01448	Throttle Lever
7	54475	Gear Shaft	30	95558	Retaining Ring
8	50780	Planetary Carrier	31	12132	Pin
9	06213	5,000 RPM Gear	32	01449	Valve Stem
	54519	3,200 RPM Gear	33	95730	O-Ring
10	54468	Ring Gear	34	01024	O-Ring
11	53150	5,000 Pinion	35	01469	Speed Regulator
	53151	3,200 Pinion.	36	01464	Seal
12	50778	Spacer	37	01472	Tip Valve
13	40544	Bearing	38	01468	Spring
14	53161	Front End Plate	39	01564	Air Control Ring
15	50777	Rotor	40	94520	Muffler Assembly
16	01480	Blade (4)	41	95711	Retaining Ring
17	01476	Cylinder	42	95438	O-Ring
18	50767	Spring Pin	43	94521	Muffler Base
19	02673	Rear Bearing Plate	44	94524	Sintered Muffler
20	02696	Bearing	45	94525	Felt Muffler
21	02679	Shield	46	94522	Muffler Cap
22	50776	Motor Housing	47	95375	O-Ring
23	01548	Gasket	48	94526	Spacer
24	01461	Lock Nut	49	94523	Inlet Adapter
25	01558	Collar			



# 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.
3. 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: **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 @ 90 PSI has 3/8" NPT female ports.
5. Use only genuine Dynabrade replacement parts. To reorder replacement parts, specify the **Model #**, **Serial #** and **RPM** of your machine.
6. A motor tune-up kit (P/N 96174) is available which includes assorted parts to help maintain motor in peak operating condition. Please refer to Dynabrade's Preventative Maintenance Schedule for a guide to expectant life of component parts.
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 Description	Pad Inch (mm)	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)
51400	3" (76)	8-3/4" (222)	4-1/4" (108)	1.7 lbs. (.77)	24 (680)	82 dBA	.31 (231)	3,200	90 (6.2)
51401	3" (76)	8-3/4" (222)	4-1/4" (108)	1.7 lbs. (.77)	24 (680)	82 dBA	.31 (231)	5,000	90 (6.2)
51430	5" (127)	9-3/4" (248)	4-1/2" (114)	2.4 lbs. (1.1)	24 (680)	82 dBA	.31 (231)	3,200	90 (6.2)

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

# Disassembly/Assembly Instructions - .3 Hp/7°/Rear Exhaust

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

**Notice:** Dynabrade strongly recommends the use of their 52296 Repair Collar (sold separately) during assembly/disassembly activities. Failure to use this collar will highly increase the risk of damage to the valve body of this tool. Please refer to parts breakdown for part identification.

## New/Updated Parts - Effective Serial Number 7H2542

02696 Bearing Replaces 02650 Bearing.

02673 Rear Bearing Plate Replaces 01474 Rear Bearing Plate.

02679 Shield added.

### Motor Disassembly:

1. Disconnect tool from power source.
2. Secure air tool in vise using 52296 Repair Collar. Remove backing pad.
3. With an adjustable pin wrench, remove 50781 Rear Exhaust Cover by turning counter-clockwise.
4. Remove 50784 Set Screw and pull 50782 Adapter and planetary carrier assembly from 50776 Housing.
5. Press planetary carrier assembly from rear 54552 Bearing. Remove ring gear and gears from 50780 Planetary Carrier.
6. Secure planetary carrier in vise and remove 50782 Adapter. Press carrier from front 54552 Bearing.
7. Grab onto pinion and pull motor assembly from motor housing. Remove 50778 Spacer.
8. Press 50777 Rotor from 02673 Rear Bearing Plate. Press 02696 Rear Bearing from rear bearing plate., remove 02696 Shield.
9. Remove cylinder and rotor blades from rotor.
10. Secure rotor in vise and remove pinion from rotor by inserting a 3mm drift pin through hole in pinion and twist off (right hand threads).
11. Press pinion and rotor through 40544 Front Bearing and 53161 Front Bearing Plate.

**Motor disassembly complete.**

### Valve Body Disassembly:

1. Position valve body in vise using 52296 Repair Collar 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 2.5mm drift pin, tap 12132 Pin from housing and remove throttle lever.
7. Remove 95558 Retaining Ring. Push 01469 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 53161 Front Bearing Plate onto front end of 50777 Rotor (threaded end). Press 40544 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 02696 Rear Bearing and slip bearing and 02679 Shield 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. Be sure 50767 Pin lines up with pin hole in front bearing plate.
6. Press 02673 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. Place 50778 Spacer over pinion and install motor assembly into motor housing.
8. Press front 54552 Bearing onto front end of 50780 Planetary Carrier.
9. Apply one drop of #271 Loctite® to threads of 50782 Adapter. Install adapter onto planetary carrier (torque 17.0 N•m/150 in. - lbs.).
10. Install gears and 54475 Gear Shafts onto planetary carrier.
11. Slip 54468 Ring Gear over gears and press rear 54552 Bearing onto planetary carrier.
12. Slip complete planetary carrier onto pinion in motor housing. Line up slot in ring gear with 50784 Set Screw hole, install 50784 Set Screw into hole to lock motor in place.
13. Install 50781 Exhaust Cover onto housing to secure motor (torque 28 N•m/250 in. - lbs.).
14. Install backing pad assembly onto adapter.

**Motor Reassembly Complete.**

### Valve Body Reassembly:

1. Insert 01469 Regulator with O-rings and valve stem in place into valve body. Secure with 95558 Retaining Ring.
2. Secure valve body in vise using 52296 Repair Collar 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.

(continued on next page)

## Disassembly/Assembly Instructions (continued)

- Slip **94523** Inlet Adapter through muffler assembly and install **95711** Retainer Ring into groove on inlet adapter.
- Install **01564** Air Control Ring into valve body housing.
- 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. - lbs.).
- Replace air fitting. Secure inlet adapter with a wrench before tightening air fitting.
- Install throttle lever and **12132** 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



### Dynaswivel®

- Patented "universal-joint" connects portable air tools to an air line.
- Swivels 360° AT TWO PIVOT POINTS allowing the air hose to drop directly to the floor while providing superb tool handling.
- New lightweight, non-marring composite construction; industrial quality.

#### Also available:

**95461** – 3/8" NPT

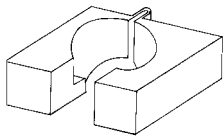
**95462** – 1/2" NPT

**95490** – 3/4" NPT



### 96174 Motor Tune-Up Kit

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



### 52296 Repair Collar

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



### Finesse Sanding Creme

- A sanding compound for metal, fiberglass and composites. Use with fine-grade sanding discs.
- 95723:** 4 oz. (118 ml). **95724:** 1 qt. (946 ml).  
**95725:** 1 gal. (3.8 l).

### Dynabrade Glaze

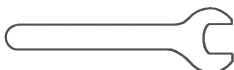
- For use with slow-speed tools to achieve a high gloss after compounding.
- 95727:** 4 oz. (118 ml). **95728:** 1 qt. (946 ml).

3" diameter  
**90038**

5" diameter  
**90040**

### "Flat-Face" Foam Buffs

- Velcro-backed for easy attachment/removal.
- Excellent absorption of excess compound/glaze.
- Prevents swirls.
- Three sizes to choose from:  
**3"**– **90038** — Use with models **51400**.  
**5"**– **90040** — Use with models **51430**, 7° Buffer .



### Open-End Wrenches

**95262** – 14 mm open-end

**95281** – 19 mm open-end



For Serial No. 9J1264 and Higher

**Models:**

- 51400** — 3", 3,200 RPM
- 51401** — 3", 5,000 RPM
- 51403** — 3", 5,000 RPM, w/ 94533 Muffler
- 51405** — Versatility Kit
- 51430** — 4" - 5", 3,200 RPM

<b>O</b>	Oil: O <sub>1</sub> = Air Lube	<b>KEY</b>
<b>A</b>	Adhesive: A <sub>2</sub> = Loctite #271 A <sub>8</sub> = Loctite #567	
<b>T</b>	Torque: N·m x 8.85 = In. - lbs.	
<b>G</b>	Grease: G <sub>1</sub> = Lubriplate 630 AA	

PD15.07  
June, 2015  
Supersedes PD03.34

# .4 hp, 7°, Rear Exhaust Buffer

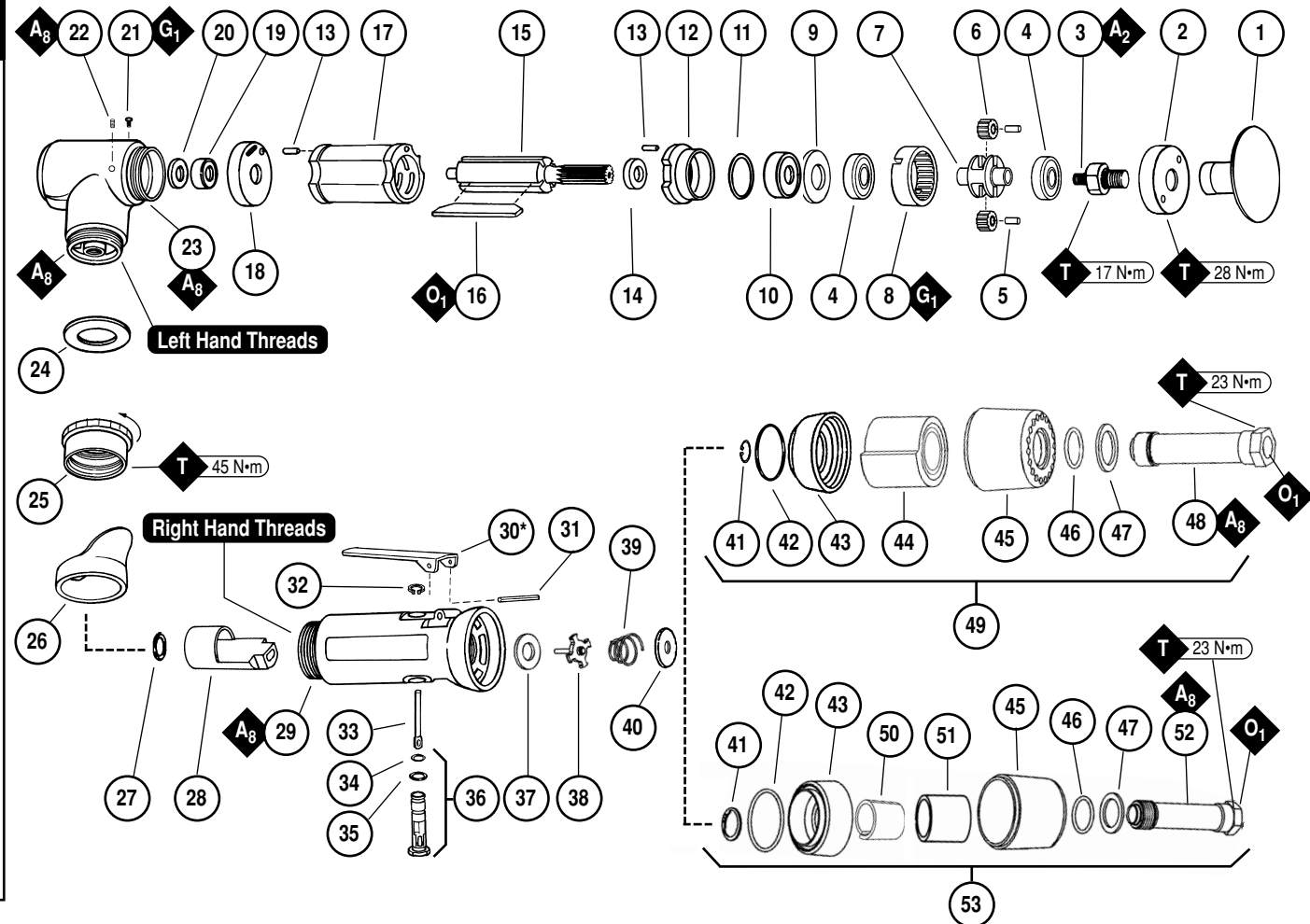
Air Motor and Machine Parts

## ! 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. See inside for Important Operating, Maintenance and Safety Instructions.

### Index Key

No.	Part #	Description
1	50126	Back-Up Pad – 3"
	50147	Back-Up Pad – 4"-5"
2	50781	Rear Exhaust Cover
3	50782	Adapter
4	54552	Bearing (2)
5	54472	Gear Shaft (2)
6	06213	5,000 RPM Gear (2)
	54519	3,200 RPM Gear (2)
7	<b>Planetary Carrier</b>	
	50786	3,200 RPM
	50787	5,000 RPM
8	54468	Ring Gear
9	50778	Spacer
10	02649	Bearing
11	54529	Shim (3/pkg.)
12	01478	Front End Plate
13	50767	Pin (2)
14	01479	Spacer
15	<b>Rotor</b>	
	54553	5,000 RPM
	54554	3,200 RPM
16	01480	Blade (4/pkg.)
17	01476	Cylinder
18	02673	Rear Bearing Plate
19	02696	Bearing
20	02679	Shield
21	01041	Grease Fitting
22	50784	Set Screw
23	50776	Motor Housing
24	01548	Gasket
25	01461	Lock Nut
26	01558	Collar
27	95523	O-Ring
28	01470	Insert
29	02100	Housing - 51400
	02101	Housing - 51401
	02102	Housing - 51430
30	01448	Throttle Lever
31	12132	Pin
32	95558	Retaining Ring
33	01449	Valve Stem
34	95730	O-Ring
35	01024	O-Ring
36	01469	Speed Regulator Assy.
37	01464	Seal
38	01472	Tip Valve
39	01468	Spring
40	01564	Air Control Ring
41	95711	Retaining Ring
42	95438	O-Ring
43	94521	Muffler Base
44	94528	Felt Muffler
45	94522	Muffler Cap
46	95375	O-Ring
47	94526	Spacer
48	94523	Inlet Adapter
49	94519	Muffler Assembly
50	94534	Thinsulate™ Muffler
51	94525	Felt Silencer
52	94527	Inlet Adapter
53	94533	Muffler Assembly



\*Optional 01462 Safety Lock Lever Available.

# 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. 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. Lubricate planetary gears through the grease fitting with 2 plunges for every 50 hours of use, to achieve maximum gear life (order **95542** Grease and **95541** Gun).
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 **96174**) is available which includes assorted parts to help maintain motor in peak operating condition. Please refer to Dynabrade's Preventative Maintenance Schedule for a guide to expectant life of component parts.
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.

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Model Number	Motor HP (W)	Motor RPM	Air Inlet Thread	Sound Level	Air Flow Rate CFM/SCFM (LPM)	Pad Dia. Inch (mm)	Spindle Thread	Weight Pound (kg)	Length Inch (mm)	Height Inch (mm)
51400	.4 (298)	3,200	1/4" NPT	80 dB(A)	3/24 (680)	3 (76)	3/8"-24 male	1.7 (.8)	8-3/4 (222)	4-1/4 (108)
51401/51403	.4 (298)	5,000	1/4" NPT	78 dB(A)	3/24 (680)	3 (76)	3/8"-24 male	1.7 (.8)	8-3/4 (222)	4-1/4 (108)
51430	.4 (298)	3,200	1/4" NPT	80 dB(A)	3/24 (680)	4 - 5 (102 - 127)	3/8"-24 male	2.4 (1.1)	9-3/4 (248)	4-1/2 (114)

Additional Specifications: Hose I.D. Size 1/4"(6mm) • Air Pressure 90 PSIG (6.2 Bars)

# **Disassembly/Assembly Instructions – .4 hp, 7°, Rear Exhaust**

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

**Notice:** Dynabrade strongly recommends the use of their 52296 Repair Collar (sold separately) during assembly/disassembly activities. Failure to use this collar will highly increase the risk of damage to the valve body of this tool. Please refer to parts breakdown for part identification.

## **Motor Disassembly:**

1. Disconnect tool from power source.
2. Secure air tool in vise using **52296** Repair Collar. Remove back-up pad.
3. With an adjustable pin wrench or **50971** Lock Ring Tool, remove **50781** Rear Exhaust Cover by turning counter-clockwise.
4. Remove **50784** Set Screw and pull **50782** Adapter and planetary carrier assembly from **50776** Housing.
5. Press planetary carrier assembly from rear **54552** Bearing. Remove ring gear and gears from **50786** or **50787** Planetary Carrier.
6. Secure planetary carrier in vise and remove **50782** Adapter. Press carrier from front **54552** Bearing.
7. Grab onto pinion and pull motor assembly from motor housing. Remove **50778** Spacer.
8. Press **54553** or **54554** Rotor from **02673** Rear Bearing Plate. Press **02696** Rear Bearing from rear bearing plate, remove **02679** Shield.
9. Remove cylinder and rotor blades from rotor.
10. Press **54553** or **54554** Rotor through **02649** Front Bearing and **01478** Front Bearing Plate.

**Motor Disassembly Complete.**

## **Valve Body Disassembly:**

1. Position valve body in vise using **52296** Repair Collar 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, **01472** Tip valve and **01464** Seal.
6. Using a 2.5mm drift pin, tap **12132** Pin from housing and remove throttle lever.
7. Remove **95558** Retaining Ring. Push **01469** Regulator from valve body and remove o-rings.

**Disassembly Complete.**

## **Motor Assembly:**

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

1. Slip **01479** Spacer onto **54553** or **54554** Rotor.
2. Place a .002" Shim into **01478** Front Bearing Plate for initial spacing. Then slip **02649** Bearing into **01478** Front Bearing Plate. Press assembly onto rotor.
3. Check the clearance between rotor and bearing plate by using a .001" feeler gauge. Clearance should be at .001" to .0015". Adjust clearance by repeating steps 1-3 changing shims as required.
4. Once proper rotor gap clearance is achieved, install lubricated blades into rotor slots, (use **95842** Dynabrade Air Motor Oil or equivalent).
5. Install **01476** Cylinder so it rests against the **01478** Front Bearing Plate, (make sure inlet holes of cylinder line up with inlet holes in **02673** Rear Bearing Plate).
6. Press **02696** Bearing into **02673** Rear Bearing Plate. Press this assembly onto rotor. **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 end so it will turn freely while still maintaining a snug fit. A loose fit will not achieve the proper preload or motor bearings. Next, place a small amount of grease on the **02696** Bearing and stick **02679** Shield against the bearing.
7. Secure housing in vise using **52296** Repair Collar or padded jaws so that motor cavity points upward.
8. Install motor assembly into housing, making sure motor drops all the way into housing.
9. Install **50778** Spacer so that flat side rests against **02649** Bearing.
10. Press front **54520** Bearing onto front end of **50786** or **50787** Planetary Carrier.
11. Hold planetary carrier in a soft jaw vise and apply one drop of #271 Loctite® to the threads of **50782** Adapter. Install adapter onto planetary carrier. Torque to 17 N-m/150 in. lbs.
12. Install planetary gears and **54472** Gear Shafts onto planetary housing.
13. Slip **54468** Ring Gear over gears making sure that notches in ring gear will align with lock screw and grease fitting in **50776** Housing once planetary gear assembly is installed.
14. Press rear **54552** Bearing onto **50786** or **50787** Planetary Carrier, until the outer race of the bearing touches the ring gear.
15. Slip the complete planetary gear assembly into **50776** Housing and install **50784** Lock Screw.
16. Install **50781** Rear Exhaust Cover onto **50776** Housing. Use **50971** Lock Ring Tool, torque to 28 N-m/250 in. lbs.
17. Lubricate planetary gears through **01041** Grease Fitting with two plunges every 50 hours of use for maximum gear life.
18. Install back-up pad.

**Motor Assembly Complete.**

## **Valve Body Assembly:**

1. Insert **01469** Regulator with o-rings and valve stem in place into valve body. Secure with **95558** Retaining Ring.
2. Secure valve body in vise using **52296** Repair Collar 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).

(continued on next page)

## Disassembly/Assembly Instructions (continued)

- Roll **94528** Felt Muffler and place into **94522** Muffler Cap. Install **94521** Muffler Base onto muffler cap.
- Install **95438** O-Ring into groove on muffler base. Place **95375** O-Ring and **94526** Spacer into recessed area of muffler cap.
- Slip **94523** Inlet Adapter through muffler assembly and install **95711** Retainer Ring into groove on inlet adapter.
- Install **01564** Air Control Ring into valve body housing.
- Apply Loctite #567 PST Pipe Sealant to threads of **94523** Inlet Adapter and install entire muffler assembly onto valve body (torque 23.0 N•m/200 in. - lbs.).
- Replace air fitting. Secure inlet adapter with a wrench before tightening air fitting.
- Install throttle lever and **12132** Pin.

**Tool Assembly Complete. Please allow 30 minutes for adhesives to cure before operating tool.**

**Notice:** To adjust throttle body orientation for a rear exhaust tool:

- Use **52296** Repair Collar to secure valve body in vise with **50776** Housing facing up.
- Peel down **01558** Collar to expose the hex portion of **01461** Lock Nut.
- Using a 34 mm crows foot and firmly holding motor housing, turn **01461** Lock Nut counter clockwise to loosen assembly.
- Adjust orientation of the throttle lever to agree with your grip and comfort level allowing for additional rotation due to torquing.
- Using the 34 mm crows foot and a torque wrench set to 400 lb. in., (while firmly holding motor housing in place to reduce housing rotation) tighten **01461** Lock Nut.

**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.

## Optional Accessories



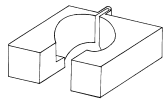
### Dynawivel®

- Patented "universal-joint" connects portable air tools to an air line.
  - Swivels 360° AT TWO PIVOT POINTS allowing the air hose to drop directly to the floor while providing superb tool handling.
  - New lightweight, non-marring composite construction; industrial quality.
- 94300** – 1/4" NPT.



### 96174 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.



### Finesse Sanding Creme

- A sanding compound for metal, fiberglass and composites. Use with fine-grade sanding discs.
- 95723:** 4 oz. (118 ml). **95724:** 1 qt. (946 ml).  
**95725:** 1 gal. (3.8 L).



### 95542 Grease 10 oz.

- Multi-purpose grease for all types of bearings, cams, gears.
- High film strength; excellent resistance to water, steam, etc.
- Workable range 0° F to 300° F.



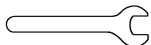
### 95541 Push-type Grease Gun

- One-hand operation.



### 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 Wrench

**95262** – 14mm open-end.

3" diameter  
**90038**

5" diameter  
**90040**

### "Flat-Face" Foam Buffs

- Velcro-backed for easy attachment/removal.
- Excellent absorption of excess compound/glaze.
- Prevents swirls.
- Two sizes to choose from:

**3"**– **90038** — Use with models **51400**.

**5"**– **90040** — Use with models **51430**, **7° Buffer**.



3" diameter  
**90027**

Terry Cloth



3" diameter  
**90029**

Synthetic Wool





# 96174 Tune-Up Kit

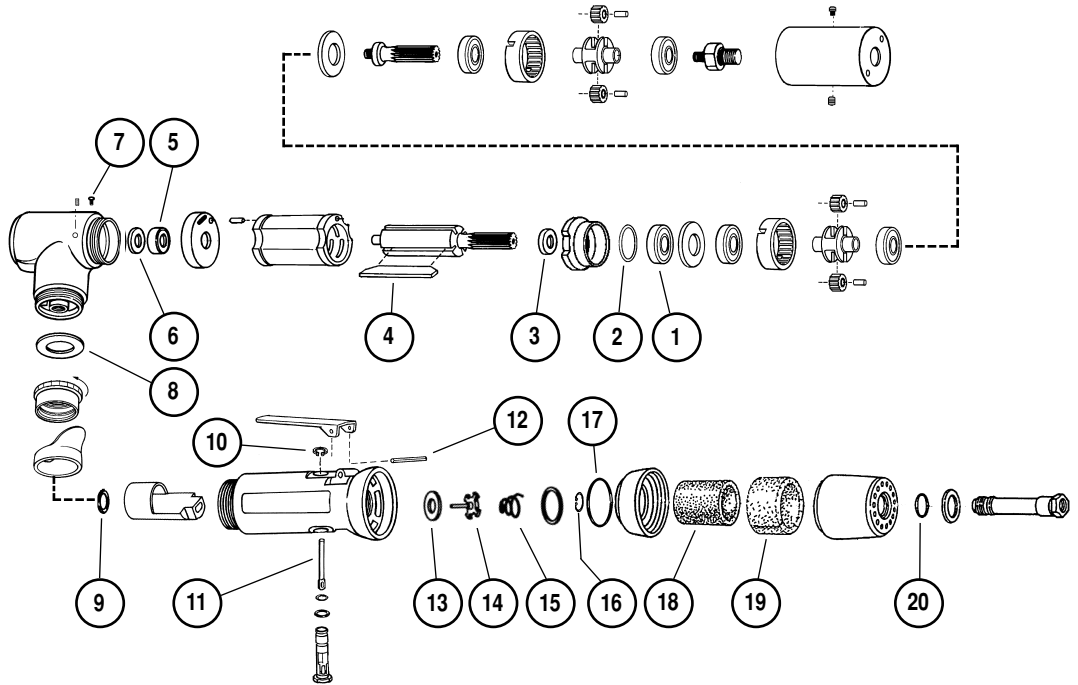
**For Use With All:  
 .4Hp/ 7°/Planetary Geared Models**

*Air Motor and Machine Parts*

Parts included in Tune-Up Kit are identified by part number. Not all parts are required for all tools.  
 Please refer to appropriate parts page for additional identification and assembly/disassembly instructions.

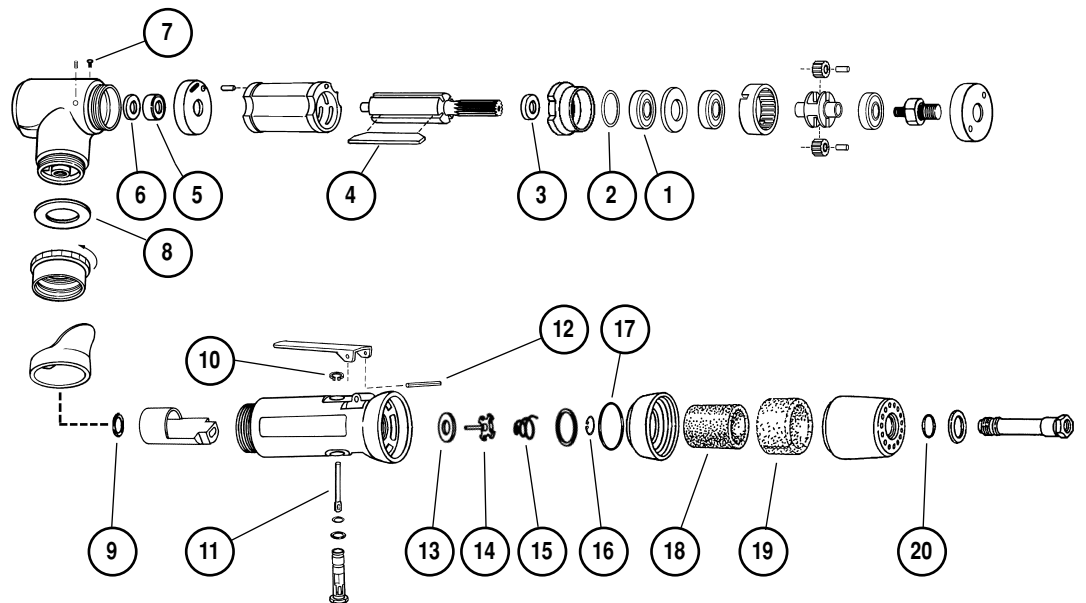
## 400 RPM, 650 RPM, 950 RPM Tools

Index Key		
No.	Part #	Description
1	02649	Bearing
2	54529	Shim (3/pkg.)
3	01479	Spacer
4	01480	Blade (4/pkg.)
5	02696	Bearing
6	02679	Shield
7	01041	Grease Fitting
8	01548	Gasket
9	95523	O-Ring
10	95558	Retaining Ring
11	01449	Valve Stem
12	12132	Pin
13	01464	Seal
14	01472	Tip Valve
15	01468	Spring
16	95711	Retaining Ring
17	95438	O-Ring
18	94524	Sintered Muffler
19	94525	Felt Muffler
20	95375	O-Ring



**Note:** 56258 Bearing is supplied for use with tools prior to S/N 9J1264.

## 3,200 RPM and 5,000 RPM Tools



**Important:** Please Indicate **Model #**, **Serial #**, and **RPM** when ordering replacement parts. See specific parts page for disassembly/assembly instructions. Please refer to Dynabrade's Preventative Maintenance Schedule (PD00•49) for a guide to expectant life of component parts.

