### AUTOMOTIVE

Parts Page Reorder No. APD08•04 Effective July, 2008

# 8" Random Orbital Polisher

Air Tool Manual - Safety, Operation and Maintenance

SAVE THIS DOCUMENT, EDUCATE ALL PERSONNEL

### **Models:**

10787 - 2,500 RPM, 5/8"- 11 Spindle 10788 - 2,500 RPM, M14 x 2 Spindle





3/4" Dia. Random Orbit

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# 🕰 WARNING

Read and understand this tool manual before operating your air tool. Follow all safety rules for the protection of operating personnel as well as adjacent areas. Always operate, inspect and maintain this tool in accordance with the American National Safety Institute (ANSI) Safety Code for Portable Air Tools – B186.1. For additional safety information, refer to Safety Requirements for the Use, Care and Protection of Abrasive Wheels – ANSI B7.1, Code of Federal Regulation – CFR 29 Part 1910, European Committee for Standards (EN) Hand Held Non-Electric Power Tools – Safety Requirements and applicable State and Local Regulations.

# **SAFETY LEGEND**



### **A WARNING**

Read and understand tool manual before work starts to reduce risk of injury to operator, visitors, and tool.



### **A WARNING**

Eye protection must be worn at all times, eye protection to conform to ANSI Z87.1.



### **A WARNING**

Respiratory protection to be used when exposed to contaminants that exceed the applicable threshold limit values required by law.

### **A WARNING**

Practice safety requirements. Work alert, have proper attire, and do not operate tools under the influence of alcohol or drugs.



### **A WARNING**

Ear protection to be worn when exposure to sound exceeds the limits of applicable Federal, State or local statues, ordinances and/or regulations.



### **A WARNING**

Air line hazard, pressurized supply lines and flexible hoses can cause serious injury. Do not use damaged frayed or deteriorated air hoses and fittings.



### **A** WARNING

Some dust created by sanding, grinding, drilling, and other construction activities contain chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- · Lead from lead-based paints
- Crystalline silica from bricks and cement and other masonry products
- Arsenic and chromium from chemically treated lumber

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

### **SAFETY INSTRUCTIONS**

Carefully Read all instructions before operating or servicing any Dynabrade® Abrasive Power Tool.

Products offered by Dynabrade are not to be modified, converted or otherwise altered from the original design without expressed written consent from Dynabrade, Inc.

Tool Intent: 8" Random Orbital Polisher is ideal for buffing and polishing of materials using cleaning and polishing accessories.

Do Not use tool for anything other than its intended applications.

This power tool is not intended for use in potentially explosive atmospheres and is not insulated against contact with electrical power.

Training: Proper care, maintenance, and storage of your tool will maximize performance.

• Employer's Responsibility - Provide 8" Random Orbital Polisher operators with safety instructions and training for safe use of tool and accessories.

### Accessory Selection:

- Abrasive/accessory RPM (speed) rating MUST be approved for AT LEAST the tool RPM rating.
- Before mounting an accessory, inspect for defects. Do not use defective accessories.
- · Do not use grinding wheels or cut-off wheels.
- Use only recommended accessories. See back page of manual and Dynabrade catalog.
- Follow tool specifications before choosing size and type of accessory.
- Only use recommended fittings and air line sizes. Air supply hoses and air hose assemblies must have a minimum working pressure rating of 150 PSIG (10 Bars, g) or 150 percent of the maximum pressure produced in the system, whichever is higher. (See tool Machine Specifications table.)

### **OPERATING INSTRUCTIONS**

Warning: Always wear eye protection. Operator of tool is responsible for following: accepted eye, face, respiratory, hearing and body protection.

Caution: Hand, wrist and arm injury may result from repetitive work, motion and overexposure to vibration. Vibration level (m/s^2): 5.73.

Vibration level was established using ISO 8662-12 with a 70 gram buff attached. Accessories with greater mass will increase vibration levels.

- · Keep hand and clothing away from working end of the air tool.
- · Working end of the air tool has potential hazard of cutting and severing.

Operation: Be sure that any loose clothing, hair and all jewelry is properly restrained.

- · Secure inlet bushing on air tool with a wrench before attempting to install the air fitting to avoid damaging housing assembly.
- BEFORE MOUNTING AN ACCESSORY, after all tool repairs and whenever a 8" Random Orbital Polisher is issued for use, check tool RPM (speed) with tachometer with air pressure set at 90 PSIG while the tool is running. If tool is operating at a higher speed than the RPM marked on the tool housing, or operating improperly, the tool must be serviced and corrected before use.

Caution: Tool RPM must never exceed abrasive/accessory RPM rating. Check accessory manufacturer for details on maximum operating speed or special mounting instructions.

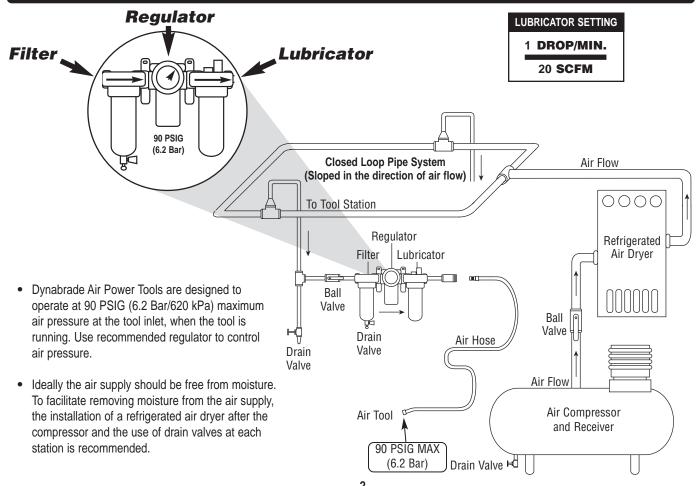
- With power source connected at the air tool relieve hose of air pressure and disconnect tool from air supply when changing recommended accessories.
- Connect air tool to power source. Be careful NOT to depress throttle lever in the process.
- Do not expose air tool to inlet pressure above 90 PSIG or (6.2 Bars).

Caution: After installing the accessory, before testing or use and/or after assembling tool, the 8" Random Orbital Polisher must be started at a reduced speed to check for good balance. Gradually increase tool speed. DO NOT USE if tool vibration is excessive. Correct cause, and retest to insure safe operation.

- · Release the throttle lever in case of an interruption of the energy supply.
- Ensure that self-fixing accessories are mounted concentrically.
- Make sure that work area is uncluttered, and visitors are at a safe range from the tools and debris. Potentially explosive atmospheres can be caused
  by dust and fumes resulting from sanding or grinding. Always use dust extraction or suppression systems which are suitable for the material
  being processed.
- · Proceed with caution in unfamiliar surroundings. Hidden hazards may exist, such as electricity or other utility lines.
- · Air tools are not intended for use in explosive atmospheres and are not insulated for contact with electric power sources.
- Use a vise or clamping device to hold work piece firmly in place.
- · Work may generate hazardous dust.
- · Do not apply excessive force on tool or apply "rough" treatment to it.
- Always work with a firm footing, posture and proper lighting.
- Ensure that sparks and debris resulting from work do not create a hazard.
- · This tool is rear exhaust. Exhaust may contain lubricants, vane material, bearing grease, and other materials flushed thru the tool.

Report to your supervisor any condition of the tool, accessories, or operation you consider unsafe.

# Air System



## **Maintenance Instructions**

**Important:** To keep tool safe a preventative maintenance program is recommended whenever portable power tools are used. The program should include inspection of air supply lines, air line pressure, proper lubrication and repair of tools. Refer to ANSI B186.1 for additional maintenance information.

- Use only genuine Dynabrade replacement parts to insure quality. To order replacement parts, specify Model#, Serial# and RPM of your air tool.
- 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: 10681 Air Filter-Regulator-Lubricator (FRL) Provides accurate
  air pressure regulation and two stage filtration of water contaminants.
- Apply 3 plunges of 95542 Grease through grease fitting located on side of angle head with 95541 Grease Gun after every 100 Hours of use.
- Dynabrade recommends one drop of air lube per minute for each 20 SCFM (example: if the tool specification states 40 SCFM, set the drip rate on the
  filter-lubricator to 2 drops per minute). Dynabrade Air Lube (P/N 95842: 1 pt 473 ml) is recommended.

### **Routine Preventative Maintenance:**

- Check the free speed of 8" Random Orbital Polisher by using a tachometer on regular basis.
- BEFORE MOUNTING AN ACCESSORY, after all tool repairs and whenever a 8" Random Orbital Polisher is issued for use, check tool RPM
  (speed) with tachometer with air pressure set at 90 PSIG while the tool is running. If tool is operating at a higher speed than the RPM marked on the
  tool housing, or operating improperly, the tool must be serviced and corrected before use.
- Mineral spirits are recommended when cleaning the tool and parts. Do not clean tool or parts with any solvents or oils containing acids, esters, ketones, chlorinated hydrocarbons or nitro carbons.
- DO NOT clean or maintain tools with chemicals that have a low flash point (example: WD-40°).
- A Motor Tune-Up Kit (P/N 98224) is available which includes high wear and medium wear motor parts.
- Air tool labels must be kept legible at all times, if not, reorder label(s) and replace. User is responsible for maintaining specification information i.e.:
   Model #, S/N, and RPM. (See Assembly Breakdown)
- Blow air supply hose out prior to initial use.
- Visually inspect air hoses and fittings for frays, visible damage and signs of deterioration. Replace damaged or worn components.
- Refer to Dynabrade's Warning/Safety Operating Instructions Tag (Reorder No. 95903) for safety information.

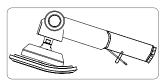
After maintenance is performed on tool, add a few drops of Dynabrade Air Lube (P/N 95842) to the air line and start the tool a few times to lubricate air motor. Check for excessive tool vibration.

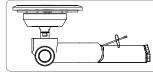
### Handling and Storage:

### • <u>DO NOT</u> rest tool on pad. (See Tool Resting Position Diagram)

- · Use of tool rests, hangers and/or balancers is recommended.
- Protect tool inlet from debris (see Notice below).
- DO NOT carry tool by air hose, or near the tool throttle lever.
- Protect abrasive accessories from exposure to water, solvents, high humidity, freezing temperature and extreme temperature changes.
- Store accessories in protective racks or compartments to prevent damage.

### **Tool Resting Position:**





**INCORRECT Resting Position** 

**CORRECT Resting Position** 

### **Machine Specifications** Maximum Air Flow SCFM (LPM) Weight Pound (kg) Model Motor Hose I.D. Size Motor RPM Pad Dia. Sound Air Inlet Number hp (W) Inch (mm) Level Inch (mm) Thread Inch (mm) Inch (mm) .7 (522) 2,500 8 (177) 82 dB(A) 27 (765) 3/8 (10) 1/4" NPT 8.3 (3.7) 14-3/8 (366) 5-13/16 (148) .7 (522) 2,500 8 (177) 82 dB(A) 27 (765) 3/8 (10) 1/4" NPT 8.3 (3.7) 14-3/8 (366) 5-13/16 (148)

Additional Specifications: Air Pressure 90 PSIG (6.2 Bar)

Sound Level is the pressure measurement according to the method outlined in ISO regulation ISO-15744

### **Notice**

All Dynabrade motors use the highest quality parts and materials 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.

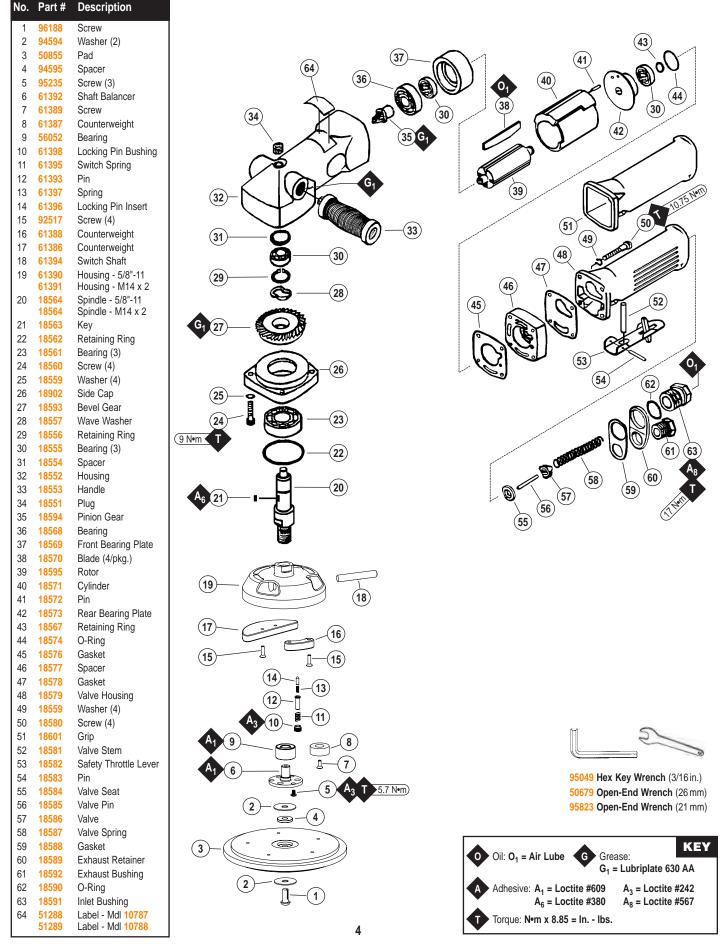
### **One Year Warranty**

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.

### Models: 10787, 10788

Index Key

# 8" Random Orbital Polisher Complete Assembly



## Assembly/Disassembly Instructions

Important: The Manufacturing Warranty is void if the tool is disassembled before the warranty expires by anyone other than a Dynabrade®

Approved Repair Technician. Notice: A 98224 Motor Tune-Up Kit is available. Also, the special repair tooling referred to in these instructions can be ordered through your Dynabrade® Distributor. Please refer to this tool manual for correct part number identification.

Important: Always follow these steps before servicing any part of this air tool.

- 1. Shut off the air supply and then depress throttle lever to dissipate the remaining air.
- Carefully disconnect the tool from the air supply hose.Note: Use a wrench to hold the air tool inlet bushing stationary when removing the air supply connection.

### **Orbital Head Disassembly:**

- Slide 61394 Switch Shaft to the random (lock) position. Use the 95823 21mm wrench to hold the orbital head in position and removed the 96188 Screw with the 95049 3/16" hex key.
- 2. Hold the 18552 Housing in a vise with bronze or aluminum jaws so the orbital head assembly is facing up.
- 3. Apply localized heat to the three 95235 Screws and use a 9/64" hex key to remove these.
- 4. Apply localized heat to the 57069 Balancer Shaft and remove the shaft along with the 56052 Bearing.
- 5. Use the 96346 2" Bearing Separator and the 96232 #2 Arbor Press to remove the 56052 Bearing from the 57069 Balancer Shaft.
- 6. Apply localized heat to 61398 Locking Pin Bushing and use 96364 Slotted screwdriver to remove.
- 7. Remove 61935 Switch Spring, 61393 Pin, 61397 Spring, and 61396 Locking Pin Insert.
- 8. Remove 61394 Switch Shaft from Orbital Head Housing.
- 9. Use the 95823 21mm Wrench to remove the orbital head from the spindle.

Orbital Head Disassembly Complete.

### Motor Disassembly:

- 1. Hold the 18552 Housing in a vise with bronze or aluminum jaws so that the 18579 Valve Housing is pointing up.
- 2. Pull the 18061 Grip off the 18579 Valve Housing. Note: A "Hot Air Gun" can be used to warm the 18601 Grip, making it more flexible.
- 3. Use the 95331 (4mm) Hex Key to remove the 18580 Screws (4), 18559 Washers (4), 18579 Housing, 18578 Gasket, 18577 Spacer, 18574 O-Ring and 18576 Gasket.
- 4. Carefully slide the air motor out of the 18552 Housing. Note: A "Hot Air Gun" can be used to warm and expand the 18552 Housing.
- 5. Use the 96343 Retaining Ring Pliers to remove the 18567 Retaining Ring.
- 6. Fasten the 96346, (2") Bearing Separator carefully between the 18573 Rear Bearing Plate and the 18571 Cylinder and place the separator on the table of the 96232, (#2) Arbor Press so that the 18594 Pinion Gear is pointing down.
- 7. Use a 3/16" dia. flat end drive punch as a press tool to push the 18595 Rotor out of the 18555 Bearing.
- 8. Use the 96213 Bearing Removal Tool and the arbor press to push the 18555 Bearing out of the 18573 Rear Bearing Plate.
- 9. Fasten the bearing separator around the flange of the 18594 Pinion Gear so that the flat side of the separator is against the 18568 Bearing. With a downward motion, strike the flat side of the separator against the table of the arbor press several times. The 18568 Bearing will slide out of the 18569 Front Bearing Plate.
- 10. Use a 3/16" dia. flat end drive punch as a press tool and the arbor press to push the 18594 Pinion Gear out of the 18568 Bearing.
- 11. Use a 3/16" dia. flat end drive punch as a press tool and the arbor press to push the 18595 Rotor out of the front 18555 Bearing. Use the 96213 Bearing Removal Tool and the arbor press to push the 18555 Bearing out of the 18569 Front Bearing Plate.

**Motor Disassembly Complete.** 

### **Right Angle Gear Disassembly:**

- 1. Use the 95331 (4mm) Hex Key to remove the 18560 Screws (4), and 18559 Washers (4).
- 2. Fasten the 96346 Bearing Separator under the 18555 Bearing and use a 3/16" dia. flat end drive punch and the 96232, (#2) Arbor Press to push the bearing from the spindle.
- 3. Use the 96343 Retaining Ring Pliers to remove the 18556 Retaining Ring, 18557 Wave Washer, 18593 Bevel Gear, and 18563 Key.
- 4. Use the 96343 Retaining Ring Pliers to remove the 18562 Retaining Ring, and pull the spindle along with the 18561 Bearing out of the 18902 Spindle Cap.
- 5. Place the 18561 Bearing on the tool plate of the arbor press and push the spindle out of the bearing.

Right-Angle Gear Disassembly Complete.

### **Motor Assembly:**

- Use the raised outer portion of the 96240 Bearing Press Tool to install the 18555 Bearing into the 18569 Front Bearing Plate.
   Note: Use the 96232 (#2) Arbor Press.
- 2. Position the 18595 Rotor on the 96231 Tool Plate of the 96232 (#2) Arbor Press so that the rear portion of the rotor body is flat on the tool plate and the spline end is pointing up. Use the 18571 Cylinder as a jig. Place the cylinder over the rotor so that it is also setting on the tool plate. Slip the front bearing/plate assembly over the spline end of the rotor and use the raised center portion of the 96240 Bearing Press Tool to install the front bearing/plate assembly onto the 18595 Rotor. Note: Use approximately 3 lbs. (1364g.) of force. Remove the rotor with the bearing/plate assembly from the arbor press. Use a .001" (.03mm) thick feeler gage to check the fit of the bearing plate to the face of the rotor. The clearance between the bearing plate and the face of the rotor should be .001" to .0015" (.03 -.04mm).
- 3. Place the 18568 Bearing flat on the tool plate of the arbor press and install the 18594 Pinion Gear into the inner race of the bearing.
- 4. Place the 18569 Front Bearing Plate flat on the tool plate of the arbor press so that the rotor is hanging down. Set the 18568 Bearing on the opening of the 18569 Front Bearing Plate so that the pinion gear is pointing up. Place one end of the 18571 Cylinder against the outer race of the 18568 Bearing and using the cylinder as a press tool, push the 18568 Bearing into the front bearing plate.
- 5. Apply a small amount of the 95842 Dynabrade Air Lube (10W/NR or equivalent) to the 18570 Blades (4) and install them into the 18595 Rotor.
- 6. Place the 18573 Rear Bearing Plate flat on the tool plate of the arbor press and use the raised outer portion of the 96240 Bearing Press Tool to install the 18555 Bearing into the rear bearing plate. (continued on next page)

## Assembly/Disassembly Instructions - Continued

- 7. Position the end of the 18594 Pinion Gear on the tool plate of the arbor press and place the rear bearing/plate assembly on the rear bearing journal of the rotor. **Note:** Make sure that the cylinder line-up pin 18572 aligns with the hole in the rear bearing plate.
- 8. Use the raised inner portion of the 96240 Bearing Press Tool and the arbor press to push the 18555 Bearing along with the rear bearing plate down onto the rotor until the bearing plate touches the cylinder. This should create a snug fit between the bearing plates and the cylinder. If the fit is too loose, add a slight bit more press (preload). Note: A "snug" fit allows the cylinder to be shifted back and forth with a small amount of finger pressure. However, the fit should not be loose or sloppy.
- 9. Use the 96343 Retaining Ring Pliers to install the 18567 Retaining Ring onto the rotor.
- 10. Hold the 18552 Housing in a vise with bronze or aluminum jaws so that the motor opening is pointing up.
- 11. With the bearing plates and the cylinder aligned, apply a film of oil to the outside diameter of the motor. Orient the motor according to the exhaust passage in the 18552 housing and the 18579 Valve Housing. Carefully slide the motor into the 18552 Housing. Note: It may be necessary, warm the housing with a "Hot Air Gun". This will expand the housing and facilitate the installation of the motor.
- 12. Install the 18576 Gasket, 18577 Spacer and 18578 Gasket. These must align with the 18572 Pin, air inlet and exhaust openings.
- 13. Orient and install the 18579 Valve Housing so that the air inlet and exhaust openings align correctly.
- 14. Use the 95331 (4mm) Hex Key to fasten the valve housing to the 18552 Housing with the 18559 Washers (4) and the 18580 Screws (4). (Torque to 10.75 N•m/95 in. lbs.)
- 15. Install the 18601 Grip onto the 18579 Valve Housing. Note: A "Hot Air Gun" can be used to warm the 18601 Grip, making it more flexible.
- 16. Install an air fitting into the 18591 Inlet Bushing and connect to the air supply. Test the air motor for proper operation.

### Motor Assembly Complete.

### **Right Angle Gear Assembly:**

- 1. Wipe off the surface of the 96231 Tool Plate to make sure that it is clean. Place the open side of the 18561 Bearing on the tool plate so that the inner race is supported. Position the spindle into the bearing so that the threaded end is pointing up. Press the spindle and the bearing together.
- 2. Place the 18902 Spindle Cap on the tool plate so that the open side of the bearing pocket is facing up.
- 3. Position the spindle with the bearing on the spindle cap so that the threaded end of the spindle is pointing up. Press the spindle with bearing all the way into the spindle cap.
- 4. Use the 96343 Retaining Ring Pliers to install the 18562 Retaining Ring.
- 5. Clean the keyway of the spindle with a swab moistened with acetone. Also, clean the 18563 Key with acetone and apply a small amount of Loctite® #380 (or equivalent) to the keyway. Install the key and let the adhesive set.
- 6. Install and press the 18593 Bevel Gear onto the spindle. Apply a small amount of the 95542 Grease to the bevel gear and pinion.
- 7. Install the 18557 Wave Washer and use the retaining ring pliers to install the 18556 Retaining Ring.
- 8. Place the threaded portion of the spindle on the tool plate of the arbor press and use the raised center portion of the 96240 Bearing Press Tool to press the 18555 Bearing onto the spindle.
- 9. Install the 18554 Spacer into the 18552 Housing so that the raised outer portion of the spacer will be against the outer race of the 18555 Bearing.
- 10. Orient the air bleed notch of the spindle cap toward the throttle lever and install the spindle assembly into the housing. Check the fit of the gears and for smooth rotation.
- 11. Use the 95331 (4mm) Hex Key to install the 18560 Screws (4), and 18559 Washers (4). (Torque to 9 Nem/80 in. lbs.)
- 12. Apply 3 plunges of the 95542 Grease through the grease fitting with the 95541 Lubrication Gun initially, and after every 100-hour interval of use. Right Angle Gear Assembly Complete.

### **Orbital Head Assembly:**

- 1. Slide 61394 Switch Shaft into the housing so that it is in the rotary (unlock) position.
- 2. Install 61935 Switch Spring, 61393 Pin, 61397 Spring, and 61396 Locking Pin Insert.
- Apply a small amount of the Loctite #242 (or equivalent) to the external threads of 61398 Locking Pin Bushing and install into the orbital head using the 96364 Slotted screwdriver.
- 4. Wipe all oil and grease for the outside diameter of the 57069 Balancer Shaft with a clean cloth. Wipe all oil and grease from the inside diameter of the 56052 Bearing.
- 5. Apply a small amount of the Loctite #609 (or equivalent) to the outside diameter of the 57069 Balancer Shaft.
- 6. Place the 57069 Balancer Shaft on the tool plate of the 96232 #2 Arbor Press. Position the sealed side of the 56052 Bearing on the balancer shaft and use the 57091 Bear Press Tool to install the bearing onto the balancer shaft.
- 7. Wipe all oil and grease from the outside diameter of the 56052 Bearing and the bearing pocket of the orbital head. Apply a small amount of the Loctite #609 (or equivalent) to the outside diameter of the bearing and install the balancer shaft and the bearing into the orbital head
- 8. Apply a small amount of the Loctite #242 (or equivalent) to the threads of the three 95235 Screws and install these into the orbital head (Torque to 5.7 Nom/50lb-in.).
- 9. Use the 95823 21mm Wrench to install the orbital head assembly on the spindle.
- 10. Slide 61394 Switch Shaft to the lock position.
- 11. Assemble the washers and spacer as shown on page 4 and place the backing pad on the 57069 Balancer Shaft. Use the 95823 21mm Wrench to hold the head stationary while installing the 96168 Screw with a 3/16" hex key (Torque to 11.3 N•m/100lb-in.).
- 12. Connect the polisher to the air supply hose and check for the proper operation. Orbital Head Assembly Complete. Polisher 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 permeate motor.

### **Right Angle Gear Lubrication Instructions:**

Apply 3 plunges of the 95542 Grease through the grease fitting with the 95541 Lubrication Gun after every 100-hour interval of use.

# **Preventative Maintenance Schedule**

For All 8" Random Orbital Polishers

This service chart is published as a guide to expectant life of component parts. The replacement levels are based on average tool usage over one year. Dynabrade Inc. considers one year usage to be 1,000 hours or 50% of a man year.

### **Parts Common to all Models:**

Index		Description	Number		Medium Wear		Non-Wear
#	Number		Required	100%	70%	30%	10%
1 2	96188 94594	Screw Washer	2		X X		
3	50855	Pad	1	N/A	N/A	N/A	N/A
4	94595	Spacer	1				X
5	95235	Screw	3			Χ	
6	61392	Shaft Balancer	1			Х	
7	61389 61387	Screw Counterweight	1			Х	Х
9	56052	Bearing	1			Х	Λ
10	61398	Locking Pin Bushing	1			X	
11	61395	Switch Spring	1			Х	
12	61393	Pin	1			Х	
13	91397	Spring	1			X X	
14 15	61396 92517	Locking Pin Insert Screw (4)	1 4			X	
16	61388	Counterweight	1			^	χ
17	61386	Counterweight	1				x
18	61394	Switch Shaft	1			Х	
19	See Note	Housing	1				χ
20	See Note	Spindle	1			Х	
21	18563	Key	1		-	L	
22 23	18562 18561	Retaining Ring Bearing	1 3		T T		
24	18560	Screw	4		'	L	
25	18559	Washer	4			ī	
26	18902	Side Cap	1			X	
27	18593	Bevel Gear	1			Х	
28	18557	Wave Washer	1			L	
29	18556	Retaining Ring	1		_	D	
30	18555 18554	Bearing Spacer	3		T	Х	
32	18552	Housing	1			X	
33	18553	Handle	1			X	
34	18551	Plug	1			Χ	
35	18594	Pinion Gear	1			Х	
36	18568	Bearing	1		T	,	
37	18569	Front Bearing Plate	1	Т		χ	
38	18570 18595	Blade (4/pkg.) Rotor	4	ı		Х	
40	18571	Cylinder	1			X	
41	18572	Pin	1			X	
42	18573	Rear Bearing Plate	1			Х	
43	18567	Retaining Ring	1			D	
44	18574	O-Ring	1		Ţ		
45 46	18576	Gasket	1		T	Х	
46	18577 18578	Spacer Gasket	1		Т	^	
48	18579	Valve Housing	1		,	Χ	
49	18559	Washer	4			L	
50	18580	Screw	4			Χ	
51	18601	Grip	1			Х	
52	18581	Valve Stem	1			Х	
53 54	18582 18583	Safety Throttle Lever Pin	1			L	
55	18584	Valve Seat	1			X	
56	18585	Valve Pin	1			X	
57	18586	Valve	1			Х	
58	18587	Valve Spring	1			χ	
59	18588	Gasket	1			Х	V
60	18589	Exhaust Retainer	1				X
61 62	18592 18590	Exhaust Bushing O-Ring	1				X
63	18591	Inlet Bushing	1				X
64	See Note	Label	1			Χ	-

	LEGEND
T	Included in Tune-Up Kit
X	Type of wear, no other comments apply.
L	Easily lost. Care during assembly/disassembly.
D	Easily damaged during assembly/disassembly.
R	Replace each time tool is disassembled.



98224 - Motor Tune-Up Kit

**Note:** Please refer to page 4 of tool manual for specific part number or number required.

# **Optional Accessories**

### FIND THE MOST CURRENT OFFERING OF SUPPORT DOCUMENTS AND ACCESSORIES @ WWW.DYNABRADE.COM



### 98224 Motor Tune-Up Kit

· Includes assorted parts to help maintain and repair motor.



### 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: 1pt. (473 ml) 95843: 1 gal. (3.8 L)



90082 Natural Sheepskin Polishing Pad



### 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.



### 53147 Top Mount Handle Assembly

• Allows side handle to be centered over the top of the working end of the tool.

# **Special Repair Tools**

Note: Not Shown, Mentioned In Assembly/Disassembly Instructions

96242 Bearing Press Tool

96232 (#2) Arbor Press

96346 (2") Bearing Separator

96213 Bearing Removal Tool

96240 Bearing Press Tool

96231 Tool Plate

95331 4mm Hex

### **Reference Contact Information**

1. American National Safety Institute - ANSI

25 West 43rd Street

Forth Floor New York, NY 10036 Tel: 1 (212) 642-4900

Fax: 1 (212) 398-0023

2. Government Printing Office - GPO

Superintendent of Documents

Attn. New Orders P.O. Box 371954

Pittsburgh, PA 15250-7954 Tel: 1 (202) 512-1803

3. European Committee for Standardization Rue de Stassart 36

B - 1050 Brussels, Belgium



Visit Our Web Site: www.dynabrade.com

Email: Customer.Service@Dynabrade.com