For Serial No. 9J1264 and Higher

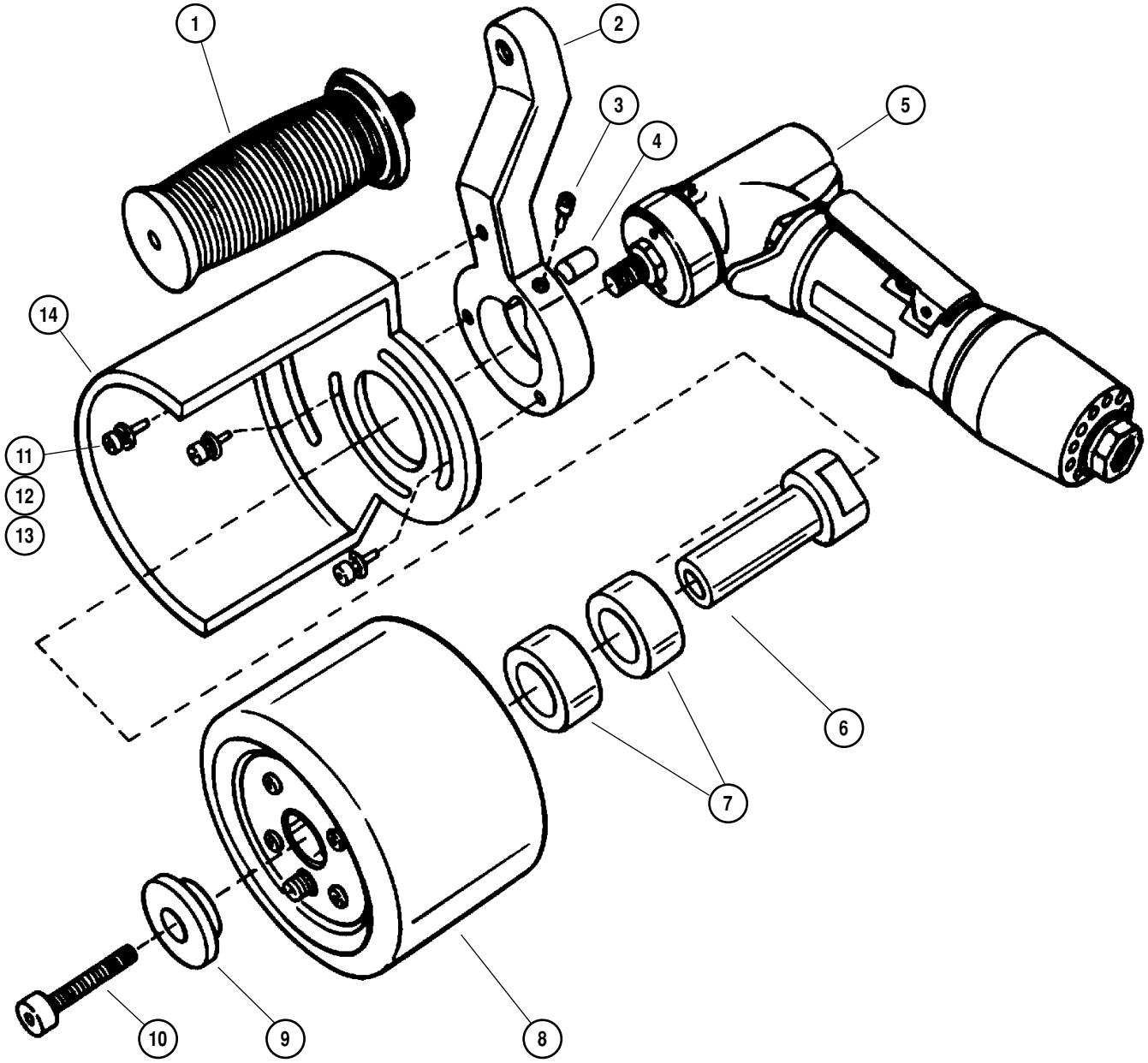
Parts Page Reorder No. PD01•90
Effective October, 2001
Supersedes PD98•05

Mini-Dynisher®

Model:
13301 – 950 RPM

Air Motor and Machine Parts

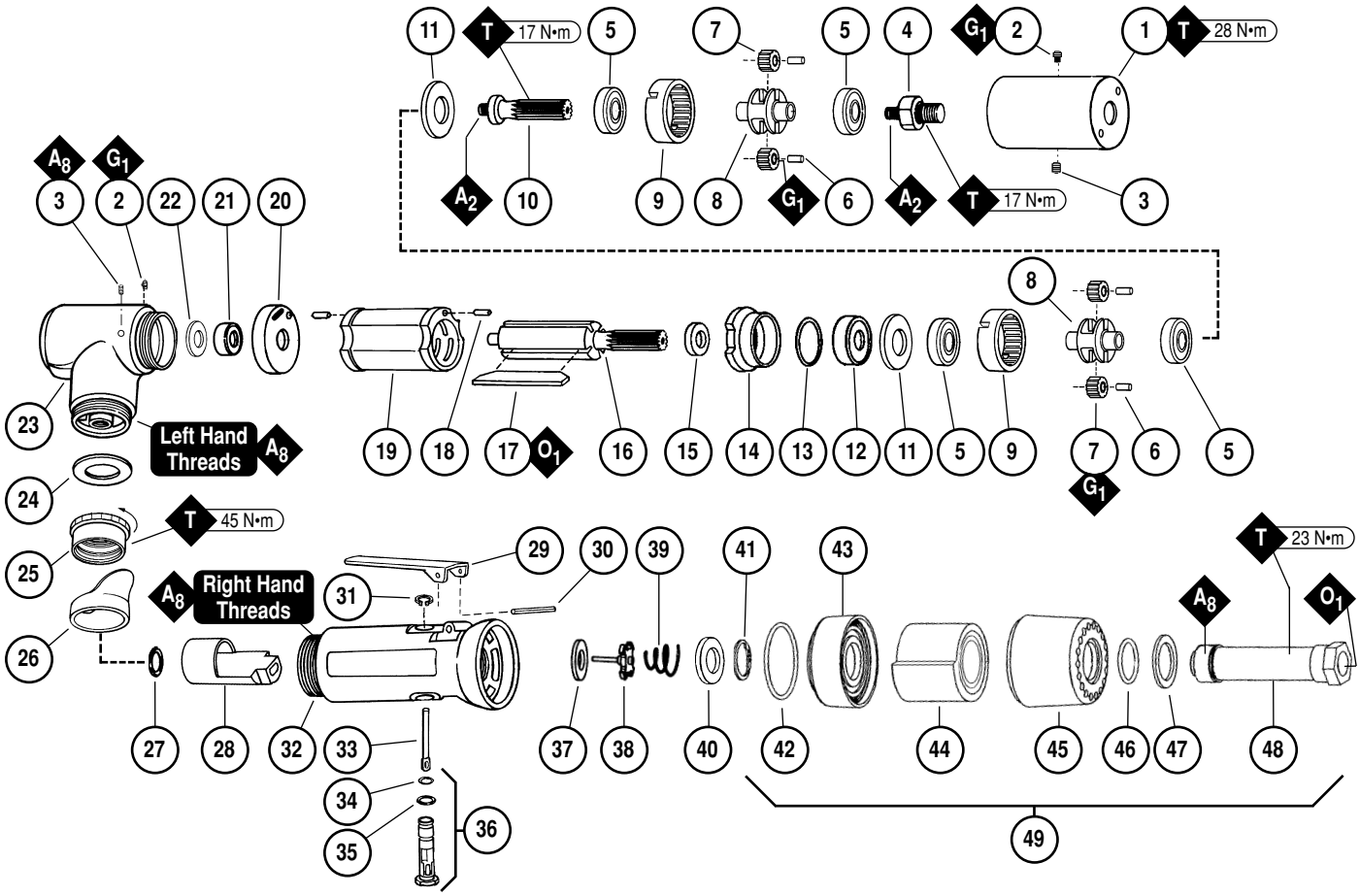
⚠WARNING **Always operate, inspect and maintain this tool in accordance with the Safety Code for portable air tools (ANSI B186.1) and any other applicable safety codes and regulations. Please refer to Dynabrade's Warning/Safety Operating Instructions for more complete safety information. See inside for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



Index Key

No.	Part#	Description	No.	Part#	Description
1	**53163**	Handle Assembly	8	**94507**	Pneumatic Wheel (not included)
2	**53166**	Handle Support	9	**13066**	Flange
3	**96198**	Lock Screw	10	**96133**	Screw
4	**40029**	Cam Lock	11	**95146**	Flat Washer (3)
5	**01985**	Motor Assembly	12	**01211**	Lock Washer (3)
6	**53154**	Spindle	13	**97010**	Screw (3)
7	**13063**	Spacer (2)	14	**53168**	Shroud

01985 Motor Assembly



Index Key		
No.	Part #	Description
1	**53153**	Planetary Housing
2	**01041**	Grease Fitting (2)
3	**50784**	Set Screw (2)
4	**50782**	Adapter
5	**54552**	Bearing (4)
6	**54472**	Gear Shaft (4)
7	**06213**	Gear (4)
8	**50787**	Planetary Carrier (4)
9	**54468**	Ring Gear (2)
10	**53150**	Pinion
11	**50778**	Spacer (2)
12	**02649**	Bearing
13	**54529**	Shim (3/pkg.)
14	**01478**	Front End Plate
15	**01479**	Spacer
16	**54553**	Rotor
17	**01480**	Blade (4/pkg.)
18	**50767**	Pin (2)
19	**01476**	Cylinder
20	**02673**	Rear Bearing Plate
21	**02696**	Bearing
22	**02679**	Shield
23	**50776**	Motor Housing
24	**01548**	Gasket
25	**01461**	Lock Nut
26	**01558**	Collar
27	**95523**	O-Ring
28	**01470**	Insert
29	**01448**	Throttle Lever
30	**12132**	Pin
31	**95558**	Retaining Ring
32	**02121**	Housing – **13301**
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

KEY

- O — Oil: **O_1 = Air Lube**
- A — Adhesive: **A_2 = Loctite #271**, **A_8 = Loctite #567**
- T — Torque: **N•m x 8.85 = In. - lbs.**
- G — Grease: **G_1 = Lubriplate 630 AA**

Disassembly/Assembly Instructions - .4hp/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. Remove pneumatic wheel or accessory from spindle.
2. Loosen **01678** Lock Screw and remove handle assembly. Remove **53154** Spindle from motor shaft.
3. Secure motor housing using **52296** Repair Collar in vise with motor spindle facing upwards. Using an adjustable pin wrench, or **50971** Lock Ring Tool remove exhaust cover.
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 **50787** Planetary Carrier.
6. Secure planetary carrier in soft vise (bronze or aluminum) jaw and remove **50782** Adapter. Press carrier from front **54552** Bearing.
7. Pull on the pinion gear of the **54553** Rotor and remove the air motor assembly from the **01488** Housing.
8. Fasten the **96346** Bearing Separator around the rear portion of the cylinder and place the separator on the table of the **96232** Arbor Press with the pinion gear pointing towards the floor. Press on the rear shaft of the rotor with flat nose 3/16 in. diameter punch, as a press tool, and remove it from the **02696** Bearing. The vanes can now be removed.
9. Place the flat side of the of the **01478** Front Bearing Plate on the **96231** Tool Plate of the arbor press and push the pinion end of the **54553** Rotor from the **02694** Bearing. The **02649** Bearing can be pushed out of the front bearing plate allowing the removal of the **54529** Shims. The **01479** Spacer can be slipped off the rotor.
10. Remove the **02696** Bearing from the **02673** Rear Bearing Plate with the **96210** Bearing Removal Tool.

Motor Disassembly Complete.

Disassembly/Assembly Instructions - .4 hp/7°/Rear Exhaust (continued)

Valve and Silencer Disassembly:

1. Position the **02121** Housing in the vise with the **52296** Repair Collar so that the air inlet is pointing up.
2. Hold the **94523** Inlet Adapter stationary with a wrench and remove the air fitting.
3. Remove the **94523** Inlet Adapter.
4. Remove the **95711** Retaining Ring from the inlet adapter and separate the **94521** Muffler Base from the **94522** Muffler Cap. Remove the bronze and felt mufflers.
5. Remove the air control ring from the **02121** Housing.
6. Use a needle nose pliers to remove **01468** Spring, **01472** Tip Valve and **01464** Seal.
7. Use a 2.5mm drive punch and remove **12132** Pin along with throttle lever.
8. Remove **95558** Retaining Ring and push **01469** Speed Regulator Assembly from housing. The o-rings can be removed.

Valve and Silencer Disassembly Complete.

Valve and Silencer Assembly

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

1. Install **01469** Speed Regulator Assembly (with o-rings) into the **02121** Housing securing it with the **95558** Retaining Ring.
2. Position the **02121** Housing in the vise with the **52296** Repair Collar so that the air inlet is pointing up.
3. Install **01464** Seal into housing.
4. Insert the **01449** Valve Stem into **01469** Speed Regulator Assembly so that the hole in the valve stem is visible through the air inlet opening.
5. Holding the valve stem in position and use a needle nose pliers to install the **01472** Tip Valve so that it intersects with the valve stem. Install the **01468** Spring (small end against the tip valve).
6. Install the bronze and felt mufflers into **94522** Muffler Cap. Install the **94521** Muffler Base onto muffler cap.
7. Install **95438** O-Ring into the groove on the muffler base. Place **95375** O-Ring and **94526** Spacer into the recessed area of the muffler cap.
8. Slip **94523** inlet Adapter through muffler assembly and install **95711** Retaining Ring into the groove on the inlet adapter.
9. Install **01564** Air Control Ring over the male thread of the inlet adapter and apply a small amount of Loctite® #567 Pipe Sealant (or equivalent) to the male threads of the inlet adapter and install the entire muffler assembly onto the **02121** Housing. Torque to 23 N•m/200 in.- lbs.
10. Hold the **94523** Inlet Adapter with a wrench when installing the air fitting.
11. Install the throttle lever and **12132** Pin.

Valve and Silencer Assembly Complete.

Motor Assembly:

1. Slip **01479** Spacer onto the pinion end of the **54553** Rotor.
2. Place a .002 in. shim into the **01478** Front Bearing Plate and install **02649** Bearing into the front bearing plate. Press this assembly onto the **54553** Rotor by using the **96240** Bearing Press Tool.
3. Check the clarence between the rotor and the bearing plate by using a .001 in. feeler gauge. The proper clarence should be .001 in. to .0015 in. If it is necessary, adjust clarence by repeating steps 1-3, adding or removing shims as required.
4. Once proper rotor gap clarence is achieved, install lubricated (oiled) vanes into the rotor slots, (use **95842** Dynabrade Air Motor Oil or equivalent).
5. Install the **01476** Cylinder so that it rest against the **01478** Front Bearing Plate while making sure that the air inlet holes of the **02673** Rear Bearing Plate align properly with the air inlet holes in the **01476** Cylinder.
6. Use the **96216** Bearing Press Tool to install the **02696** Bearing into the **02673** Rear Bearing Plate and to press the bearing plate with bearing onto the **54553** Rotor.
   Note: The pinion end of the **54553** Rotor should be supported on the tool plate of the arbor press while pressing the rear bearing and bearing plate assembly onto the rotor.
7. **Important:** The fit must be snug between the bearing plates and the cylinder. If it is to tight, the rotor will not turn freely. The press fit must be loosened so that it will turn freely while still maintaining a snug fit.
8. Apply a small amount of grease to the exposed seal of the **02696** Bearing and install the **02679** Shield so that it will stick against the bearing.
9. Position the **02121** Housing in the vise so that the motor opening in the housing is pointing up.
10. Install the motor assembly into the **02121** Housing so that the motor drops all the way into the housing.
    Note: Align the rear bearing plate node with the notch inside the housing.
11. Place **50778** Spacer over the pinion of the installed motor assembly.

Planetary Gear Assembly:

1. Press the front **54552** Bearing onto the **50787** Planetary Carrier.
2. Apply one drop of Loctite® #271 (or equivalent) to the threads of the **50782** Adapter and install it onto the planetary carrier, torque to 17 N•m/150 in.-lbs.
   Note: Follow this same procedure when installing the **53150** Pinion onto the second planetary carrier. Install the **06213** Gears and **54472** Shafts onto the planetary carriers.
3. Slip **54468** Ring Gears over the carriers and press the rear **54552** Bearings onto the planetary carriers so that a slight preload exists between the bearings and the ring gears.
   Note: Position the ring gears so that the set screw and grease fitting notches face away from the front planetary bearings.
4. Slip the complete planetary carrier assemblies into the motor and planetary housings so that the ring gear notches line up with the **50784** Set Screws holes. Apply a small amount of Loctite® #567 (or equivalent) to the threads of the **50784** Set Screws and install them.
5. Place a **50778** Spacer between the two planetary gear assemblies. Apply a small amount of Loctite® #567 (or equivalent) to the threads of the **50776** Motor Housing and carefully install the planetary housing while making sure of proper gear alignment, torque to 28 N•m/250 in.-lbs.

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

Important: Motor should now be tested for proper operation at 90 PSIG. If motor does not operate properly or operates at a higher RPM than marked on the tool, the tool should be serviced to correct the cause before use. Before operating, place 2-3 drops of Dynabrade Air Lube (P/N **95842**) directly into air inlet with throttle lever depressed. Operate tool for 30 seconds to determine if tool is operating properly and to allow lubricating oils to properly penetrate motor

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Pneumatic Wheel/Abrasive Wheel Installation:

94507 Pneumatic Wheel:

1. Remove **96133** Screw and **13066** Flange with 3mm hex key. Install **94507** Pneumatic Wheel (with air inlet facing out) onto spindle. **Note:** Be sure **13063** Spacer is located on spindle behind pneumatic wheel.
2. Tighten **96133** Screw and flange onto spindle to secure pneumatic wheel. Install abrasive belt and inflate (20 PSIG max).

Abrasive Wheel: (must have 5/8" bore and cannot exceed 4" dia. x 3" wide)

1. Remove **96133** Screw and **13066** Flange with 3mm hex key, install wheel. Use **13063** Spacer for wheel less than 3" wide.
2. Tighten **96133** Screw and flange onto spindle to secure wheel.

Model Number	Motor hp (W)	Motor RPM	Sound Level	Air Flow Rate CFM/SCFM (LPM)	Air Pressure PSIG (Bars)	Wheel (Dia. x Length)	Weight Pound (kg)	Length Inch (mm)	Height Inch (mm)
13301	.4 (289)	3,200	80 dB(A)	3/21 (595)	90 (6.2)	5/8 x 3	2.8 (.86)	10 (254)	7 (178)

Additional Specifications: Air Inlet Thread 1/4" NPT • Hose I.D. Size 1/4" or 8mm

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. An Air Line Filter-Regulator-Lubricator must be used with this air tool to maintain all warranties. 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 gear casing grease fitting with 2-3 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.

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.

Optional Accessories



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



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.



96174 Tune-Up Kit
- Includes assorted parts to help maintain and repair motor.

Visit Our Web Site: www.dynabrade.com

Email: Customer.Service@Dynabrade.com

DYNABRADE®

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