

# .4 hp Die Grinder

## Ergo-Grip - Rear Exhaust

Parts Page Reorder No. PD10•03  
Effective January, 2010

### Air Tool Manual – Safety, Operation and Maintenance

SAVE THIS DOCUMENT, EDUCATE ALL PERSONNEL

Model	RPM	Collet Style	Muffler	Insert Size
47200	950	3 Piece	Extended	1/4" & 6 mm
47201	3,200	3 Piece	Extended	1/4" & 6 mm
47202	5,500	3 Piece	Extended	1/4" & 6 mm



Model 47201

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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 Standards 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

	<b>! WARNING</b> Read and understand tool manual before work starts to reduce risk of injury to operator, visitors, and tool.	<b>! WARNING</b> Practice safety requirements. Work alert, have proper attire, and do not operate tools under the influence of alcohol or drugs.	
	<b>! WARNING</b> Eye protection must be worn at all times, eye protection to conform to ANSI Z87.1.	<b>! WARNING</b> Ear protection to be worn when exposure to sound, exceeds the limits of applicable Federal, State or local statutes, ordinances and/or regulations.	
	<b>! WARNING</b> Respiratory protection to be used when exposed to contaminants that exceed the applicable threshold limit values required by law.	<b>! WARNING</b> Air line hazard, pressurized supply lines and flexible hoses can cause serious injury. Do not use damaged, frayed or deteriorated air hoses and fittings.	

### ! 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.

**Tool Intent:** .4 hp Die Grinder is ideal for deburring, deflashing, surface preparation, cleaning and finishing using the proper abrasive stones, abrasive mounted wheels, molded abrasives, and carbide burrs.

**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 air tools will maximize their performance.

- Employer's Responsibility – Provide .4 hp Die Grinder operators with safety instructions and training for safe use of tools and accessories.

(continued on next page)

## **SAFETY INSTRUCTIONS (Continued)**

### **Accessory Selection:**

- Abrasive/accessory RPM (speed) rating MUST be approved for AT LEAST the tool RPM rating.
- Before mounting an accessory, visually inspect for defects. Do not use defective accessories.
- Use only accessories of the correct shaft size for the collet (example: 1/4" shaft = 1/4" collet).
- Use only recommended accessories. Reference Dynabrade catalog and this tool manual.
- Follow tool specifications before choosing size and type of accessory.
- Only use recommended fittings and air line sizes. Air supply hoses and air hose accessories must have a minimum working pressure of 150 PSIG (10 Bars) or 150 percent of the maximum pressure produced in the system, whichever is higher. (See tool Machine Specifications table.)

## **OPERATING INSTRUCTIONS**

**Warning:** Always wear personal protective equipment. 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.

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

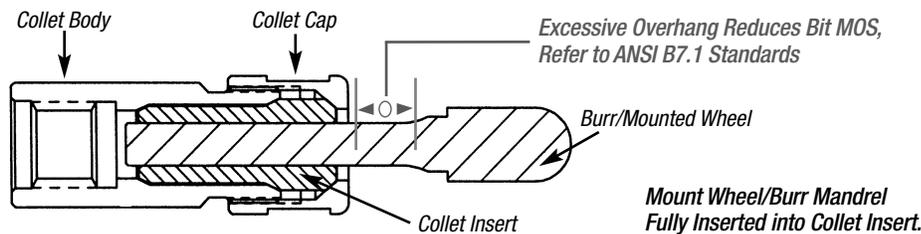
**Operation:** Be sure that any loose clothing, hair and all jewelry is properly restrained.

- 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 .4 hp Die Grinder 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. Improper mounting of an accessory may cause excessive vibration levels or damage the accessory. Make sure no one is in the unguarded plane of the accessory. Run tool for 1 minute of operating speed in a protected area.

### **PROPER MOUNTING PROCEDURE**

*With Power Source Disconnected from the Tool, Mount Recommended Accessory*



**Note:** Intended for general reference use only. Always refer to ANSI B7.1, B186.1 and EN 792 for detailed requirements.

**Bit Gripping Length:** Bit should be inserted no less than 1" (13mm) into the collet insert.

- 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 .4 hp Die Grinder 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. Test tool at its free speed (RPM) in a protected area for at least one minute before applying the tool to the work.

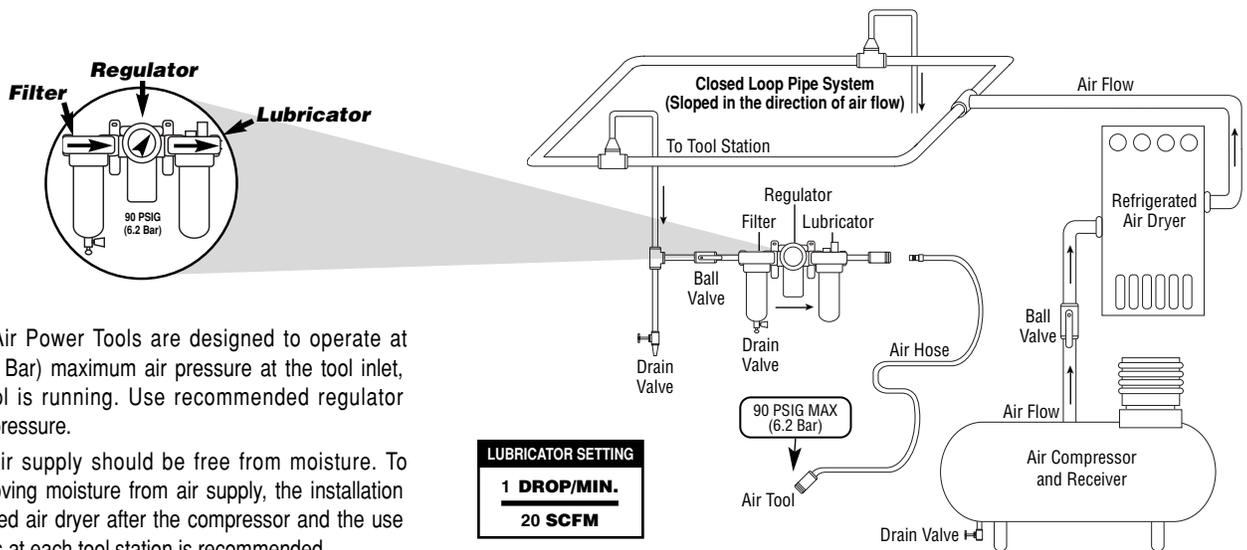
- Release throttle lever when air supply is interrupted.
- Make sure that work area is uncluttered, and visitors are at a safe range from the tools and debris.
- Air tools are not intended for use in explosive atmospheres and are not insulated for contact with electric power sources.
- Use a vise or clamping device to hold work piece firmly in place.
- 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 does not create a hazard.
- Tool is rear exhaust, exhaust may contain lubricants, vane material, bearing grease, and other materials flushed thru the tool.

**Warning:** Grinding certain materials can create explosive dust. It is the employers responsibility to notify the user of acceptable dust levels.

- Grinding can cause sparks which can cause fires or explosions. It is the users responsibility to make sure the work area is free of flammable materials.
- DO NOT USE cut-off wheels or router bits on this tool.
- Always use dust extraction or suppression systems and personal protective equipment which are suitable for the materials being processed.

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

# Air System



- Dynabrade Air Power Tools are designed to operate at 90 PSIG (6.2 Bar) maximum air pressure at the tool inlet, when the tool is running. Use recommended regulator to control air pressure.
- Ideally the air supply should be free from moisture. To facilitate removing moisture from air supply, the installation of a refrigerated air dryer after the compressor and the use of drain valves at each tool station is recommended.

## 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 ensure 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 Line Filter-Regulator-Lubricator — Provides accurate air pressure regulation, two-stage filtration of water contaminants and micro-mist lubrication of pneumatic components. Delivers up to 55 SCFM/1,558 LPM @ 145 PSIG/9.7 Bar (Max. Air Temperature of 140°F/60° C) **Note:** Two (2) 3/8" NPT Reducer Bushings are included.
- 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.
- Use the **95541** Lubricant Gun to supply 2 plunges of the **95542** Gear Grease (or equivalent) through the lubricant fitting(s). It is recommended to supply 2 plunges of grease after every 50 - hours of use.

**Routine Preventative Maintenance:** Check free speed tool using a tachometer without accessory mounted. This governor controlled polisher should be speed checked every 20 hours of use or weekly, whichever occurs more frequently after maintenance or repair.

- **DO NOT** disassemble the governor for any reason. Reorder correct speed – governor assembly (See Assembly Breakdown) and recheck free speed of tool with a tachometer.

### Routine Preventative Maintenance

- Inspect accessories before mounting. Do not mount accessories that are damaged or nicked.
- Check accessory - speed rating. Rating on accessory must be greater than the tool speed marked on the housing.
- If accessory breakage occurs, investigate to determine the cause and correct before issuing tool for work.
- 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 **96541**) is available which includes high wear and medium wear motor parts.
- Air tool markings must be kept legible at all times, if not, reorder housing 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 tool inlet and start the tool a few times to lubricate air motor. Check for tool vibration before mounting abrasive wheel accessory.

### Handling and Storage:

- Use of tool rests, hangers and/or balancers is recommended.
- Protect tool inlet from debris (see Notice on Page 7).
- **DO NOT** carry tool by air hose or near the tool throttle lever.
- Protect accessories from exposure to water, solvents, high humidity, freezing temperature and extreme temperature changes.
- **DO NOT USE** accessories that have been dropped or show signs of cracks, nicks or other defects.
- Store accessories in protective racks or compartments to prevent damage.

**Models:**  
47200, 47201, 47202

# .4 hp Die Grinder

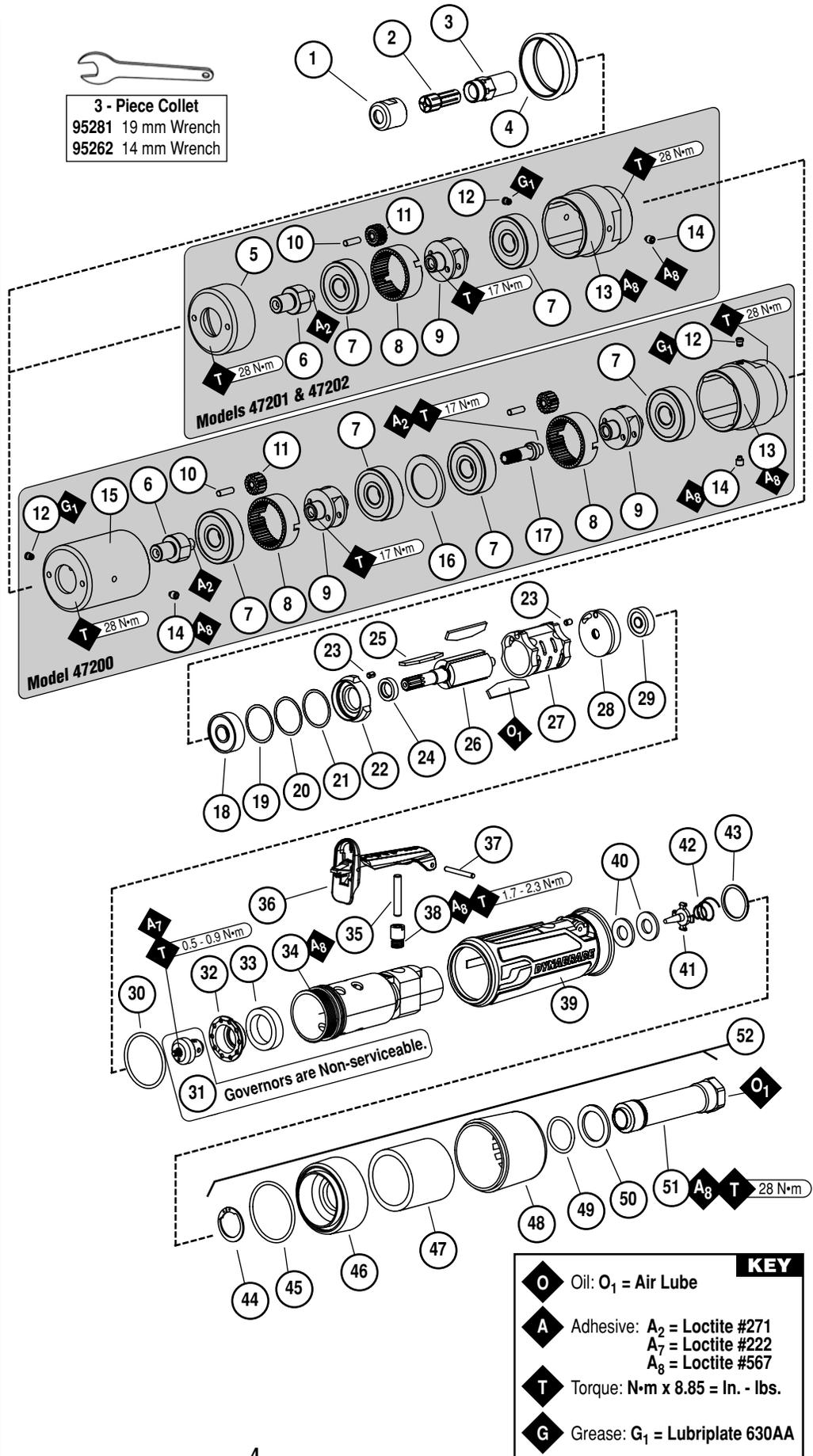
## Complete Assembly – All Models

### Index Key

No.	Part #	Description
1	50012	Collet Cap
2	Collet Insert	
	50013	1/4"
	50016	6 mm
3	50011	Collet Body
4	01547	Collar
5	50781	Rear Exhaust Cover
6	50782	Adapter
7	54520	Bearing (2) or (4)
8	54468	Ring Gear (1) or (2)
9	50787	Planetary Carrier (1) or (2)
10	54472	Pin (2) or (4)
11	Planetary Gear Set	(Includes 01033 Bearing)
	06213	950 & 5,500 RPM
	54519	3,200 RPM
12	01041	Grease Fitting (1) or (2)
13	53152	Adapter
14	50784	Set Screw (1) or (2)
15	53153	Planetary Housing
16	50778	Spacer
17	53150	Pinion
18	02649	Bearing
19	54551	Shim - .076"
20	54543	Shim - .025"
21	54544	Shim - .05"
22	01478	Front End Plate
23	50767	Pin (2)
24	01479	Spacer
25	01480	Vane Set (4/Pkg.)
26	Rotor	
	45291	950 & 5,500 RPM
	45292	3,200 RPM
27	01476	Cylinder
28	02673	Rear Bearing Plate
29	02696	Bearing
30	96077	O-Ring
31	Governor Assembly	
	45269	3,200 RPM (Blue)
	45272	950 & 5,500 RPM (Green)
32	45276	Filter Cage
33	45278	Filter
34	45250	Housing Core
35	97045	Pin
36	45263	Safety Throttle Lever
37	97060	Pin
38	45257	Throttle Bushing
39	Exterior Housing (Laser Etched)	
	45203	Model - 47200
	45204	Model - 47201
	45205	Model - 47202
40	01464	Seal (2)
41	58365	Tip Valve
42	01468	Spring
43	01564	Air Control Ring
44	95620	Retaining Ring
45	95438	O-Ring
46	94521	Muffler Base
47	94525	Felt Muffler
48	94522	Muffler Cap
49	95375	O-Ring
50	94526	Spacer
51	94523	Inlet Adapter Assembly
52	94519	Muffler Assembly



**3 - Piece Collet**  
95281 19 mm Wrench  
95262 14 mm Wrench



# Disassembly/Assembly Instructions

**Important:** The Dynabrade Pneumatic Power Tool Lifetime Warranty Policy does NOT cover normally wearable parts and products. Before servicing this tool please contact Dynabrade Inc. or a Dynabrade Subsidiary for information regarding the Dynabrade Pneumatic Power Tool Lifetime Warranty Policy.

**Notice:** To avoid damaging the motor housing, use the Special Repair Tool that is designed for disassembly and assembly of these die grinders. See page 8 for a complete list of available repair tools.

**Disconnect the die grinder from the air supply.**

## Motor Disassembly:

1. Secure the air inlet adapter of the die grinder in a vise with aluminum or bronze jaws so that the collet assembly is pointing up.
2. Use 14 mm open-end wrenches to remove the collet assembly.
3. Use an adjustable wrench to remove the 53152 Adapter. Turn counterclockwise.

**Note:** One of two things will occur.

**A.** The 53152 Adapter will loosen. If this occurs, remove it and then remove the air motor assembly by pulling the motor out of the housing. Remove the filter cage and filter. Insert the hex end of the 96402 Special Repair Tool into the hex socket in the bottom of the housing. Use an adjustable wrench to loosen the housing from the air inlet adapter.

### 96402 - Special Repair Tool



**B.** The air inlet adapter will loosen. If this occurs, remove the air inlet adapter, muffler and valve components.

Remove the 2 valve seals (Fig.1). Insert the "Tear-Drop End" of the 96402 Special Repair Tool into the air inlet of the housing. Place the hex end of the special repair tool in a vise with aluminum or bronze jaws so that the housing is pointing up (Fig. 2 & 3). Use an adjustable wrench to remove the 53152 Adapter. Turn counterclockwise.



4. Use the 50971 Lock Ring Tool and an adjustable wrench to separate the 53152 Adapter from the rear exhaust cover or planetary housing. Turn counterclockwise. Use a 5/64" hex key to remove the 50784 Set Screw(s). Remove the planetary gear assemblies.
5. Remove the air motor.
6. Carefully secure the pinion in a vise with aluminum or bronze jaws so that the governor assembly is pointing up. Use a slot blade screwdriver to remove the governor. **LEFT HAND THREAD:** Turn clockwise. Note: The governor assembly is not serviceable. If the governor fails it must be replaced as a complete assembly.
7. Fasten the 96346 Bearing Separator (2") around the portion of the 01476 Cylinder that is closest to the 02673 Rear Bearing Plate. Place the bearing separator and the motor in the 96232 Arbor Press (#2) with the pinion pointing down.
8. Use a 5/32" (4 mm) diameter flat end drive punch as a press tool to push the rotor out of the 02696 Bearing.
9. Remove the cylinder and vanes.
10. Use the 5/32" (4 mm) diameter flat end drive punch to push the 02696 Bearing out of the 02673 Rear Bearing Plate.
11. Use the 96232 Arbor Press (2#) to remove the 01478 Front Bearing Plate, 02649 Bearing, shims, and 01479 Spacer.

**Motor Disassembly Complete.**

## Planetary Gear Disassembly

1. **Important:** Position the 96346 Bearing Separator (2") with the FLAT SIDE facing the RING GEAR and the BEVELED SIDE toward the REAR 54520 Bearing. Place the bearing separator and the planetary gear assembly in the 96232 Arbor Press (#2) with the 50782 Adapter or 53150 Pinion pointing down.
2. Use a 5/16" flat end drive punch as a press tool to push the planetary carrier out of the REAR 54520 Bearing.
3. Remove the ring gear, shafts, and planet gears.
4. Carefully secure the planetary carrier in a vise with aluminum or bronze jaws with the 50782 Adapter or 53150 Pinion pointing up.
5. Use a Heat Gun to warm the adapter or the pinion. This is to soften the thread adhesive. Use an adjustable wrench to remove the adapter, or a 3 mm diameter pin to remove pinion from the planetary carrier. Turn counterclockwise.
6. Use the arbor press and a 5/16" flat end drive punch as a press tool to push the planetary carrier out of the remaining 54520 Bearing.

**Planetary Gear Disassembly Complete.**

**Clean and inspect all parts before assembling.**

## Motor Assembly:

1. Install the 01479 Spacer onto the rotor.

2. Select .003" (.08 mm) shim thickness from the **54529** Shim Pack and install these into the **01478** Front Bearing Plate.
3. Install the **02649** Bearing into the front bearing plate.
4. Use the RAISED CENTER area of the **96240** Bearing Press Tool and the arbor press to install the **02649** Bearing with the bearing plate onto the rotor.
5. Use a .001" (0.3 mm) thick feeler gauge to check the clearance between the bearing plate and the face of the rotor.
6. Clearance should be .001"-.0015" (0.3-0.4 mm). **Note:** If the clearance needs adjustment, repeat steps 2-6. Add or remove shims as required.
7. Use Dynabrade Air Lube 95842 (10W/NR or equivalent) to lubricate the **01480** Vanes. Install the vanes into the rotor. Install the **01476** Cylinder and the **02673** Rear Bearing Plate so that the air inlet openings line up with each other.
8. Position the **02696** Bearing onto the bearing journal of the rotor.
9. Use the RAISED CENTER area of the **96242** Bearing Press Tool and the arbor press to install the **02696** Bearing onto the rotor and into the **02673** Rear Bearing Plate. **IMPORTANT:** Carefully press the bearing onto the rotor and into the plate until the plate just touches the cylinder. This will establish a snug fit between the bearing plates and the cylinder.
10. Carefully secure the pinion in a vise with aluminum or bronze jaws so that the back end of the rotor is pointing up. Apply a small amount of the Loctite #222 (or equivalent) to the threads of the governor. Use a torque wrench to install the governor. LEFT HAND THREAD: Turn clockwise. (Torque to 0.5 – 0.9 N•m/4 – 8 in. lbs.) **Note:** The governor assembly is not serviceable. If the governor fails it must be replaced as a complete assembly.
11. Install the filter onto the filter cage, and install these into the housing.
12. Carefully slide the motor assembly into the housing.

**Motor Assembly Complete.**

**Planetary Gear Assembly**

1. Use the RAISED CENTER of the **96239** Bearing Press Tool and the arbor press to install the **54520** Bearing onto the front of the **50787** Planetary Carrier.
2. Apply a small amount of Loctite #271 (or equivalent) to the threads of the **50782** Adapter or the **53150** Pinion that connect to the planetary carrier. Install these into the planetary carrier(s). (Torque to 17 N•m/150 in. lbs.)
3. Apply the **95542** Grease (or equivalent) to the bearings in the planetary gears. Install the planetary gears into the carrier(s) and install the **54472** Pins. Install the **54468** Ring Gear(s) so that the notches will align with the lubricant and setscrew access holes in the **53152** Adapter or **53153** Planetary Housing.
4. Use the RAISED CENTER of the **96239** Bearing Press Tool and the arbor press to install the REAR **54520** Bearing onto the **50787** Planetary Carrier(s). **IMPORTANT:** Carefully press the bearing down until it just touches the ring gear. This will establish a snug fit between the bearings and the ring gear.
5. Install the speed reduction gear assembly(ies) into the adapter or planetary housing. Apply Loctite #567 (or equivalent) to the **50784** Setscrew(s) and install to secure the gear assembly(ies). **Note: For Model 47200**, install the beveled side of the **50778** Spacer to face the outboard gear assembly and the flat side to face the second gear assembly. Use the **95541** Lubricant Gun to supply 2 plunges of the **95542** Gear Grease (or equivalent) through the lubricant fitting(s). It is recommended to supply 2 plunges of grease after every 50-hour interval of use.
6. Apply Loctite #567 to the joining threads of the adapter, rear exhaust cover and planetary housing. Use the **50971** Lock Ring Tool and an adjustable wrench to fasten the **53152** Adapter to the rear exhaust cover or planetary housing. Turn clockwise. (Torque to 28 N•m/250 in. lbs.)

**Planetary Gear Assembly Complete.**

**Final Tool Assembly**

1. Insert the "Tear-Drop End" of the **96402** Special Repair Tool into the air inlet of the housing. Place the hex end of the special repair tool in a vise with aluminum or bronze jaws so that the housing is pointing up.
2. Apply Loctite #567 to the joining threads of the adapter and the motor housing.
3. Use a 34 mm crowfoot and torque wrench or an adjustable wrench to install the **53152** Adapter onto the motor housing. Turn clockwise. (Torque to 28 N•m/250 in. lbs.)
4. Refer to the exploded view for the order of assembly to install the valve and muffler components. Follow adhesive and torque specifications.

**Final Tool Assembly Complete.**

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

**Important:** 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. 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.

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**Machine Specifications**

Model Number	Motor hp (W)	Motor RPM	Sound Level	Maximum Air Flow SCFM (LPM)	Collet Insert Size	Air Pressure PSIG (Bars)	Weight Pound (kg)	Length Inch (mm)	Height Inch (mm)
47200	.4 (298)	950	79 dB(A)	23 (651)	1/4" & 6 mm	90 (6.2)	1.9 (.9)	11 (280)	1.7 (44)
47201	.4 (298)	3,200	77 dB(A)	23 (651)	1/4" & 6 mm	90 (6.2)	1.4 (.6)	9.8 (250)	1.7 (44)
47202	.4 (298)	5,500	78 dB(A)	23 (651)	1/4" & 6 mm	90 (6.2)	1.4 (.6)	9.8 (250)	1.7 (44)

Additional Specifications: Air Inlet Thread 1/4" NPT • Hose I.D. 1/4" (6 mm)  
 Sound Level is the pressure measurement according to the method outlined in ISO regulation ISO-15744

**Lifetime Warranty**

All Dynabrade portable pneumatic power tools are rigorously inspected and performance tested in our factory before shipping to our customers. If a Dynabrade tool develops a performance problem and an inherent defect is found during normal use and service, Dynabrade will warrant this tool against defects in workmanship and materials for the lifetime of the tool. Upon examination and review at our factory, Dynabrade shall confirm that the tool qualifies for warranty status, and will repair or replace the tool at no charge to the customer. Normally wearable parts and products are NOT covered under this warranty. Uncovered items include bearings, contact wheels, rotor blades, regulators, valve stems, levers, shrouds, guards, O-rings, seals, gaskets and other wearable parts. Dynabrade's warranty policy is contingent upon proper use of our tools in accordance with factory recommendations, instructions and safety practices. It shall not apply to equipment that has been subjected to misuse, negligence, accident or tampering in any way so as to affect its normal performance. To activate lifetime warranty, customer must register each tool at [www.dynabrade.com](http://www.dynabrade.com). Dynabrade will not honor lifetime warranty on unregistered tools. A one-year warranty will be honored on all unregistered portable pneumatic power tools. Lifetime warranty applies only to portable pneumatic tools manufactured by Dynabrade, Inc. in the USA. Lifetime warranty applies only to the original tool owner; warranty is non-transferable.

# Preventative Maintenance Schedule

.4 hp Die Grinder – All Models

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.

## Parts Common to all Models:

Index #	Part Number	Description	Number Required	High Wear 100%	Medium Wear 70%	Low Wear 30%	Non-Wear 10%
1	50012	Collet Cap	1				X
2	See Note	Collet Insert	1			X	
3	50011	Collet Body	1				X
4	01547	Collar	1			X	
5	50781	Rear Exhaust Cover	1				X
6	50782	Adapter	1			X	
7	54520	Bearing	As Req.		R		
8	54468	Ring Gear	As Req.			X	
9	50787	Planetary Carrier	As Req.				X
10	54472	Pin	As Req.			X	
11	See Note	Planetary Gear Set	As Req.			X	
12	01041	Grease Fitting	As Req.				D
13	53152	Adapter	1			X	
14	50784	Set Screw	As Req.				L
15	53153	Planetary Housing	1				X
16	50778	Spacer	1				X
17	53150	Pinion	1			X	
18	02649	Bearing	1		T, R		
19	54551	Shim - .0025"	As Req.		T, R		
20	54543	Shim - .001"	As Req.		T, R		
21	54544	Shim - .002"	As Req.		T, R		
22	01478	Front End Plate	1			X	
23	50767	Pin	2				D
24	01479	Spacer	1				T
25	01480	Vane Set (4/Pkg.)	1	T, R			
26	See Note	Rotor	1				X
27	01476	Cylinder	1			X	
28	02673	Rear Bearing Plate	1			X	
29	02696	Bearing	1		T, R		
30	96077	O-Ring	1			T	
31	See Note	Governor Assembly	1				D
32	45276	Filter Cage	1				X
33	45278	Filter	1	T, R			
34	45250	Housing Core	1				X
35	97045	Pin	1			T	
36	45263	Safety Throttle Lever	1			D	
37	97060	Pin	1			T	
38	45257	Throttle Bushing	1			T	
39	See Note	Exterior Housing	1				X
40	01464	Seal	2			T	
41	58365	Tip Valve	1			T	
42	01468	Spring	1			T	
43	01564	Air Control Ring	1				L
44	95711	Retaining Ring	1		T, R		
45	95438	O-Ring	1				T
46	94521	Muffler Base	1				X
47	94525	Felt Muffler	1		T, R		
48	94522	Muffler Cap	1			X	
49	95375	O-Ring	1			T	
50	94526	Spacer	1				X
51	94523	Inlet Adapter Assembly	1				X

## 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.



**Tune-Up Kit**  
Part No. 96541

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

## 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.

# Optional Accessories

FIND THE MOST CURRENT OFFERING OF SUPPORT DOCUMENTS AND ACCESSORIES AT [WWW.DYNABRADE.COM](http://WWW.DYNABRADE.COM)



## 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.

**Part No. 95821:** 4oz. (118 ml)

**Part No. 95842:** 1 pt. (473 ml)

**Part No. 95843:** 1 gal. (3.8 L)



## Grease

- Multi-purpose grease for gears.
- High film strength; excellent resistance to water.
- Workable range 0°F to 300°F.

**Part No. 95542**



## Push-type Grease Gun

- One-hand operation.

**Part No. 95541**



## Male Plug

- Provides up to twice the air flow compared to standard plug design.
- Plug has "ported" design to prevent "starving" of the air tool.

**Part No. 95675**

## Repair Tooling

**Part No. 96402** - Special Repair Tool

**Part No. 50971** - Lock Ring Tool

**Part No. 96346** - Bearing Separator (2")

**Part No. 96232** - Arbor Press (#2)

**Part No. 96239** - Bearing Press Tool

**Part No. 96240** - Bearing Press Tool

**Part No. 96242** - Bearing Press Tool



## Motor Tune-Up Kit

- Includes assorted parts to help maintain and repair motor.

**Part No. 96541**



## Drop-In Motor

- Allows quick and easy replacement.
- No motor adjustments needed.

**Part No. 45287** – Models: 47200, 47202

**Part No. 45289** – Model: 47201



## Composite-Style Coupler

- Lightweight 1.4 oz. (.05 Kg), non-marring composite material.
- Easy connect/disconnect by single push-button action.
- Shock-proof, low-vibration, crush-resistant.

**Part No. 94960** – 1/4" Female NPT

**Part No. 94980** – 1/4" Male NPT

## Reference Contact Information

### 1. American National Standards Institute – ANSI

25 West 43<sup>rd</sup> Street  
Forth Floor  
New York, NY 10036  
Tel: 1 (212) 642-4900  
Fax: 1 (212) 398-0023

### 3. European Committee for Standardization

Rue de Stassart 36  
B - 1050 Brussels, Belgium

### 2. Government Printing Office – GPO

Superintendent of Documents  
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P.O. Box 371954  
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### 4. Power Tool Institute, Inc.

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