For Serial No. 1G2133 and Higher

Parts Page Reorder No. PD01•68
Effective July, 2001

.33 Horsepower Tools

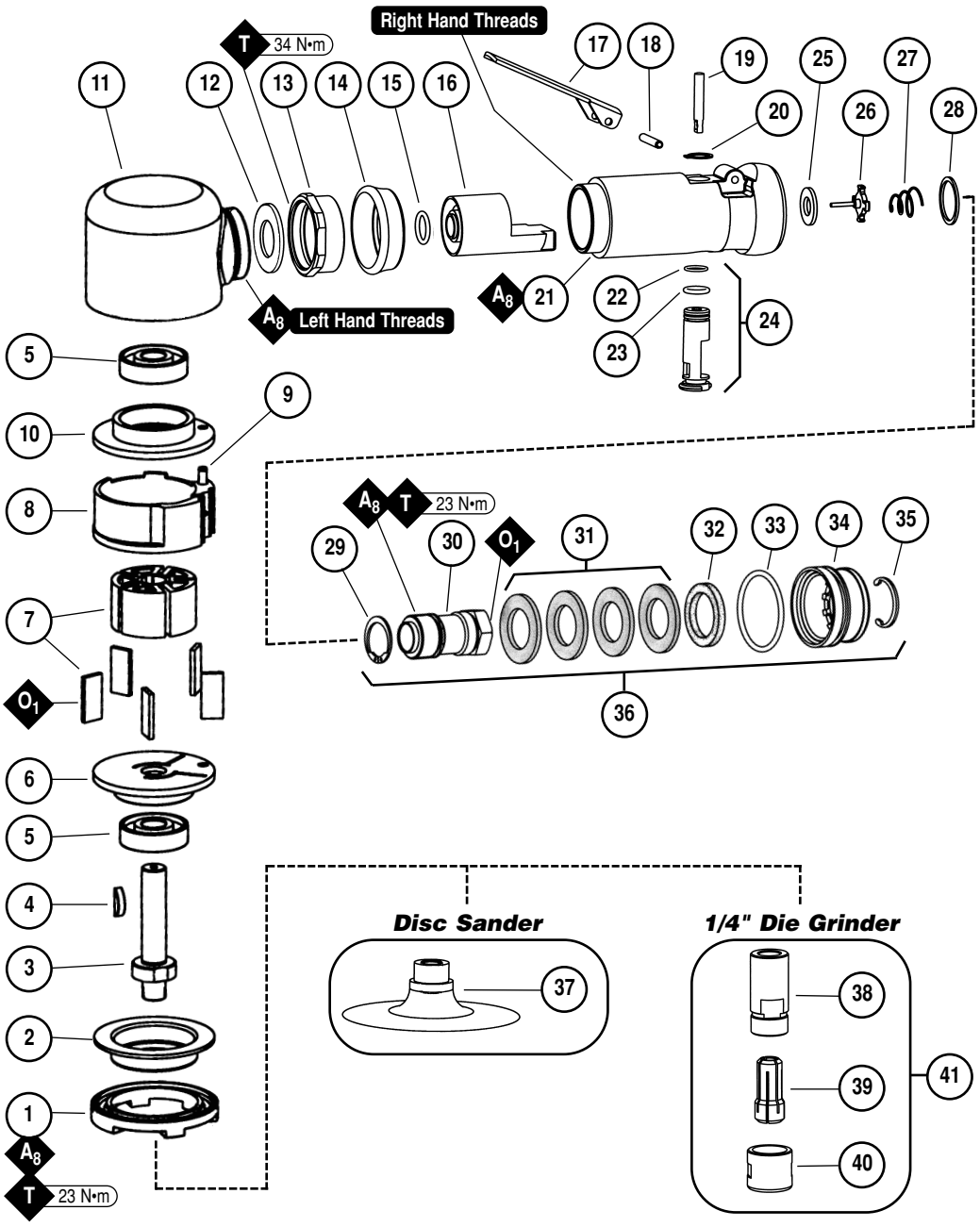
Models:
52196 - 1/4" Die Grinder, 18,000 RPM
52590 - Disc Sander, 18,000 RPM

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.**

KEY

- O Oil: **O_1 = Air Lube**
- A Adhesive: **A_8 = Loctite #567**
- T Torque: **N•m x 8.85 = In. - lbs.**



Index Key

No.	Part #	Description
1	**56046**	Lock Ring
2	**02092**	Shield
3	**54808**	Rotor Shaft
4	**98461**	Shaft Key
5	**58368**	Bearing (2)
6	**54809**	Front Bearing Plate
7	**57113**	Rotor/Blade Set (5)
8	**54806**	Cylinder Assembly (Incl. **98462** Pin)
9	**98462**	Pin
10	**58359**	Rear Bearing Plate
11	**02098**	Housing
12	**01548**	Gasket
13	**01461**	Lock Nut
14	**01547**	Collar
15	**95523**	O-Ring
16	**01470**	Insert Assembly
17	**01448**	Throttle Lever
	01462	Safety Lock Lever
18	**12132**	Spring Pin
19	**01449**	Valve Stem
20	**95558**	Retaining Ring
21	**52606**	Housing – **52196**
	52607	Housing – **52590**
22	**95730**	O-Ring
23	**01024**	O-Ring
24	**01469**	Speed Reg. Assembly
25	**01464**	Seal
26	**01472**	Tip Valve
27	**01468**	Conical Spring
28	**01564**	Air Control Ring
29	**95711**	Retaining Ring
30	**01578**	Inlet Adapter
31	**01486**	Felt Silencer (4)
32	**01379**	Bronze Muffler
33	**96065**	O-Ring
34	**01446**	Air Deflector
35	**95620**	Retaining Ring
36	**94535**	Muffler Assembly
37	**50177**	Back-Up Pad
38	**50011**	Collet Body
39	**50013**	1/4" Insert
40	**50012**	Collet Cap
41	**50010**	Collet Assembly

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.

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. 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 **96505**) is available which includes assorted parts to help maintain motor in peek operating condition. Please refer to Dynabrade's Preventative Maintenance Schedule for a guide to expectant life of component parts.
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).
- 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.

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.

Full One Year Warranty

Following the reasonable assumption that any inherent defect which might prevail in a product will become apparent to the user within one year from the date of purchase, all equipment of our manufacture is warranted against defects in workmanship and materials under normal use and service. We shall repair or replace at our factory, any equipment or part thereof which shall, within one year after delivery to the original purchaser, indicate upon our examination to have been defective. Our obligation is contingent upon proper use of Dynabrade tools in accordance with factory recommendations, instructions and safety practices. It shall not apply to equipment which has been subject to misuse, negligence, accident or tampering in any way so as to affect its normal performance. Normally wearable parts such as bearings, contact wheels, rotor blades, etc., are not covered under this warranty.

Model Number	Motor HP (W)	Motor RPM	Air Inlet Thread	Sound Level	Air Flow Rate CFM/SCFM (LPM)	Air Pressure PSIG (Bars)	Spindle Thread	Weight Pound (kg)	Length Inch (mm)	Height Inch (mm)
52196	.3 (224)	18,000	1/4" NPT	81 dB(A)	3/20 (567)	90 (6.2)	3/8-24 Male	1.9 (.8)	4-1/2 (114)	3-7/8 (98)
52590	.3 (224)	18,000	1/4" NPT	81 dB(A)	3/20 (567)	90 (6.2)	3/8-24 Male	1.9 (.8)	4-1/2 (114)	3-7/8 (98)

Additional Specifications: Hose I.D. Size 1/4" (8 mm)

Motor Assembly/Disassembly Instructions – .33 Hp Rear Exhaust Tools

Important: Manufacturer's warranty is void if tool is disassembled before warranty expires.
A Motor Tune-Up Kit (96505) is available which contains high and medium wear parts. Please refer to parts breakdown for part identification.

To Disassemble:

Motor Disassembly:

1. Invert machine and secure in vice, using **57092** Collar or padded jaws.
2. Remove the accessory.
3. Insert **56058** Lock Ring Wrench into corresponding tabs of lock ring and unscrew. Motor may now be lifted out for service.
4. Using a #2 arbor press remove the **58359** Rear Plate by securing the **54806** Cylinder in a standard 2 inch bearing separator. Push the rotor shaft through the bearing. Remove the cylinder, rotor, vanes and key.
5. Remove **54809** Front Bearing Plate and **58368** Front Motor Bearing, using a standard 2 inch bearing separator.

Motor Disassembly Compete.

Valve Body Disassembly:

1. Position valve body in a vise by using **52296** Repair Collar so that air inlet points up.
2. Secure **01578** Inlet Adapter with a wrench to prevent it from turning. While holding the inlet adapter stationary remove the air fitting by turning it counter-clockwise. **Important: 01578** Inlet Adapter must be secured before attempting to remove the air fitting so as to avoid damaging the valve body housing.
3. Remove **01578** Inlet Adapter.
4. Remove **95711** Retaining Ring from inlet adapter.
5. Remove **01486** Felt Silencer (4), and **01379** Bronze Muffler.
6. Remove **01564** Air Control Ring from the valve body housing. Use needle nose pliers and remove **01468** Spring, **01472** Tip Valve and **01464** Seal.
7. Use a 2.5 mm drive punch to remove **12132** Pin and **01448** or **01462** Throttle Lever.
8. Remove **95558** Retaining Ring and push **01469** Regulator from the valve body housing.

Valve Body Disassembly Compete.

To Assemble:

Motor Assembly:

Important: Be certain parts are clean and in good working order before assembling.

1. Press **58368** Bearing onto the rotor shaft down to the shoulder using **57091** Bearing Press Tool.
2. Place **54809** Front Bearing Plate onto **58368** Bearing and check for smooth rotation.
3. Place **98461** Rotor Key into pocket on **54804** Rotor Shaft.
4. Place **57090** Rotor over **54808** Rotor Shaft making sure to line up slot in **54806** Rotor with **98461** Rotor Key. **Note:** Be certain rotor "floats" easily on the shaft, because the design of this motor uses a floating rotor. There is no need to set or adjust the gap between the rotor and the end plates.
5. Place **56073** Vanes in slots on **57090** Rotor.
6. Place the **54806** Cylinder over the **54808** Rotor. The short line up pin goes toward the **54809** Front Bearing Plate.
7. Place **58359** Rear Bearing Plate and **58368** Bearing over shaft and long end of line up pin and press into place.
8. Make certain threaded end of **54808** Rotor Shaft spins freely.

Motor Assembly Compete.

Valve Body Assembly:

1. Install **01469** Regulator complete with o-rings and valve stem into valve body housing. Secure it in place with **95558** Retaining Ring.
2. Place valve body housing in a vise, holding it with the aid of **52296** Repair Collar so that the air inlet opening points up.
3. Insert **01464** Seal into the air inlet opening so that it lays flat.
4. Line up hole in valve stem with inlet opening in housing (looking past brass bushing). Install **01472** Tip Valve so that the metal pin passes through the hole in the valve stem. Install **01468** Spring (small end against tip valve).
5. Position **01564** Air Control Ring around inlet opening.
6. Place **01379** Bronze Muffler inside **01446** Air Deflector.
7. With **95620** Retaining Ring installed on female threaded end of **01578** Inlet Adapter insert the inlet adapter through **01446** Air Deflector.
8. Place **01486** Felt Silencer (4) inside **01446** Air Deflector.
9. Install **95711** Retaining Ring into groove at the male threaded end of the inlet adapter. Install **96065** O-Ring into groove on the air defector.
10. Apply Loctite #567 (or equivalent) to the male threads of the **01578** Inlet Adapter and install muffler assembly onto valve body housing (torque to 23 N•m/200 in.-lbs.).
11. Install **01448** or **01462** Throttle Lever onto valve body housing with **12132** Pin.
12. Secure **01578** Inlet Adapter with a wrench to prevent it from turning. **Important: 01578** Inlet Adapter must be secured before attempting to install the air fitting so as to avoid damaging the valve body housing.

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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Optional Accessories



Dynaswivel®

Swivels 360° at two locations which allows an air hose to drop straight to the floor, no matter how the tool is held.

94300: 1/4" NPT.



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.

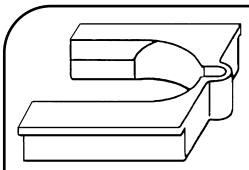
95842: 1 pt. (473 ml)

95843: 1 gal. (3.8 L)



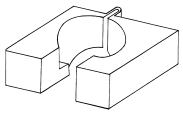
96505 Motor Tune-Up Kit

- Includes assorted parts to help maintain and repair motor.



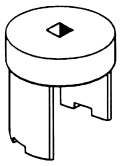
57092 Repair Collar

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



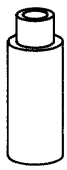
52296 Repair Collar

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



56058 Lock Ring Wrench

- Lock Ring Tool has a 3/8 in. square socket for use with 3/8 in. drive; breaker bar, ratchet head, or torque wrenches.



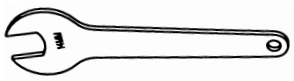
57091 Bearing Press Tool

- Use with a #2 arbor press to achieve accurate press of bearings and motor parts.

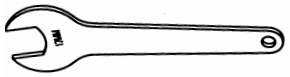
96525 Tool Repair Kit

- Includes special tools for proper disassembly/assembly of the tool.
- Includes all above listed tools.

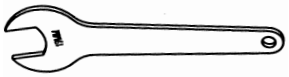
Wrenches



95262 – 14 mm open-end
Used On Model **52196**



95263 – 17 mm open-end
Used On Model **52590**



95281 – 19 mm open-end
Used On Model **52196**

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