

Models:

- 57306 - 5" Non-Vacuum
- 57310 - 6" Non-Vacuum
- 57314 - 6" Central Vacuum (w/6 Hole Vac Pad)
- 57315 - 6" Central Vacuum (w/8 Hole Vac Pad)

5" & 6" Gear Driven Orbital Sander (900 RPM)

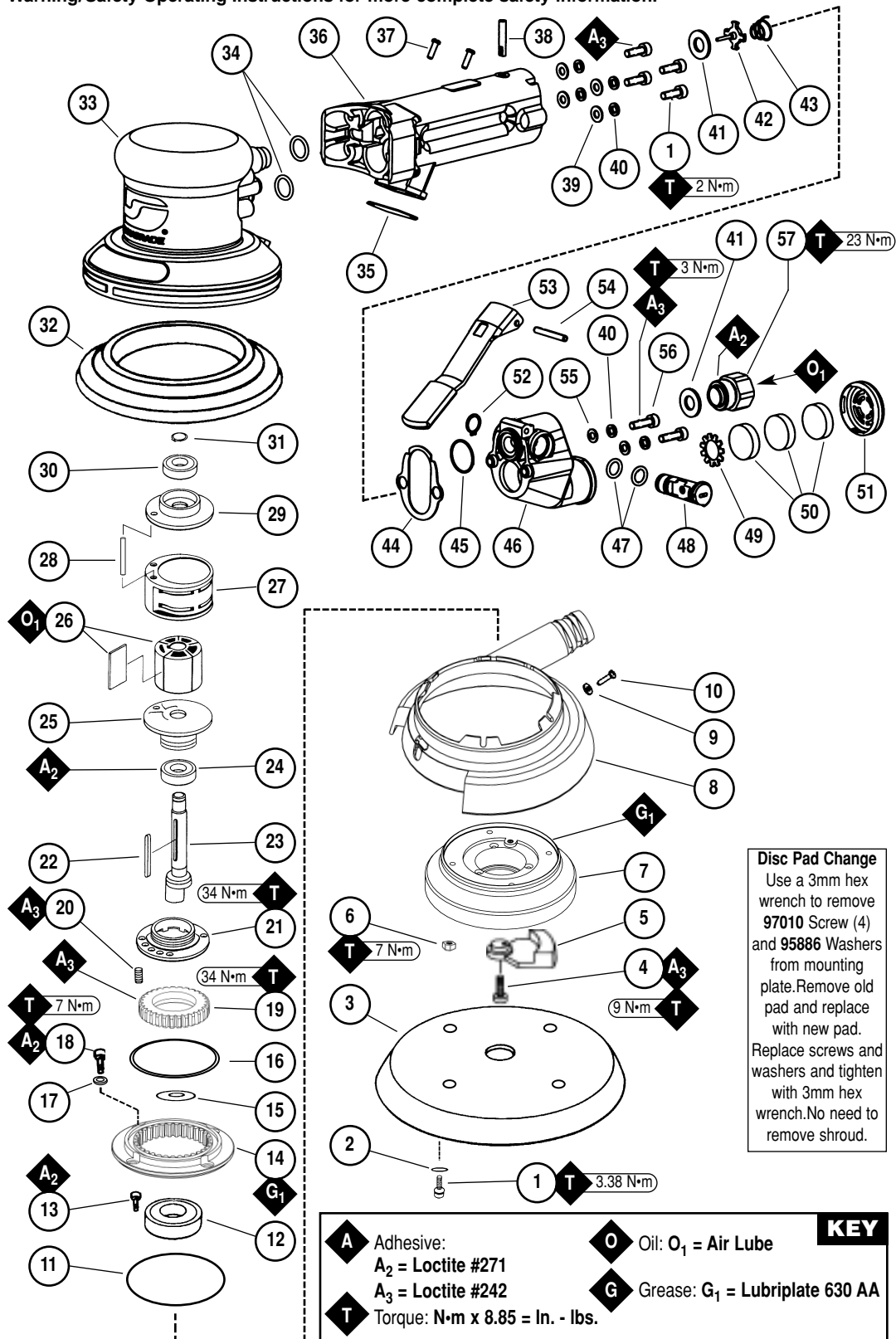
Air Motor and Machine Parts

⚠ 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.

Index Key

No.	Part #	Description
1	97010	Screw (8)
2	95886	Washer (4)
3	Sanding Pads	
	57770	5" Non-Vac
	57771	6" Non-Vac
	57772	6" Central Vac (6 Hole)
	57774	6" Central Vac (8 Hole)
4	95898	Screw
5	57754	Counter Balance
6	96276	Nut (4)
7	57755	Mounting Plate Assy.
8	57744	6" Vacuum Shroud
9	95886	Washer (4)
10	96425	Screw (4)
11	96273	O-Ring
12	57335	Bearing
13	96118	Screw (3)
14	57748	Gear
15	96150	Shim (As Required)
16	57360	Felt Wiper
17	96275	Washer (4)
18	96274	Screw (4)
19	57749	Pinion
20	96166	Set Screw
21	57332	Lock Ring
22	54673	Rotor Key
23	57331	Motor Shaft
24	56052	Bearing
25	57324	Front Bearing Plate
26	54705	Rotor/Blade Set
27	54631	Cylinder Assembly (Incl. 95865 Pin)
28	95865	Line-Up Pin
29	54629	Rear Bearing Plate
30	01206	Bearing
31	95626	Retaining Ring
32	57328	Shroud
33	57298	Housing - 57306
	57316	Housing - 57310
	57317	Housing - 57314
	57318	Housing - 57315
34	95523	O-Ring (2)
35	57382	Gasket (Non-Vac)
36	56671	Handle
37	96123	Screw (2)
38	57396	Valve Stem
39	95886	Flat-Washer (4)
40	01211	Split-Lock Washer (6)
41	01464	Seal (2)
42	01472	Tip Valve
43	01468	Conical Spring
44	56673	Gasket
45	96328	O-Ring
46	56672	Adapter
47	01024	O-Ring (2)
48	57343	Regulator Plug
49	54199	Muffler Seat
50	54195	Muffler (3)
51	54194	Muffler Cap
52	98597	Retaining Ring
53	57344	Lever
	01089	Safety Lock-Lever
	01017	Pin
54	96421	Flat Washer (2)
56	01788	Screw (2)
57	01494	Inlet Bushing



Disc Pad Change
Use a 3mm hex wrench to remove 97010 Screw (4) and 95886 Washers from mounting plate. Remove old pad and replace with new pad. Replace screws and washers and tighten with 3mm hex wrench. No need to remove shroud.

A	Adhesive:	O	Oil: O ₁ = Air Lube	KEY
	A ₂ = Loctite #271	G	Grease: G ₁ = Lubriplate 630 AA	
	A ₃ = Loctite #242			
T	Torque: N•m x 8.85 = In. - lbs.			

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/sanding pad on tool.
2. Connect power source to tool. Be careful **not** to depress throttle lever in the process.
3. Check tool speed with tachometer. If tool is operating at a higher speed than the RPM marked on the tool or operating improperly, the tool should be serviced to correct the cause before use.
4. To avoid the danger of contaminating the workpiece from the lubricating oils permeating the air or sanding dust, it is recommended that this machine be hooked up to a central vacuum system or one of our unique vacuum systems that gather all such contaminants in a paper or cloth dust bag. This self contained vacuum system is highly efficient and convenient to use since it does not need to be attached to a separate vacuum system and is as mobile as the machine itself.

Maintenance Instructions:

1. All Dynabrade Rotary Vane air motors should be lubricated with two drops of Dynabrade Air Lube (P/N 95842: 1pt. 473ml.) placed directly into the air inlet with throttle lever depressed every four hours of use.
2. Gears on the Gear Driven Tools should be greased with Dynabrade 95541 Grease Gun and 95542 Grease (10 oz. 283.5g.). Apply grease to the grease fitting in the mounting plate, one full plunge every 300 hours of use.
3. 57360 Felt Wiper should be replaced every 600 hours. Follow instructions under To Disassemble to access felt wiper.
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 positive-drip lubrication of pneumatic components. Operates 40 SCFM @ 100 PSIG has 3/8" NPT female ports.
5. Frequent drainage of water traps in air lines is recommended.
6. Some silencers on air tools may clog with use. Clean and replace as required.
7. A Motor Tune-Up Kit (P/N 96195) is available which includes assorted parts to help maintain and repair motor.

Safety Instructions:

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



- **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.
- **Important:** User of tool is responsible for following accepted safety codes such as those published by the American National Standards Institute
- Tool RPM must never exceed abrasive/sanding pad RPM rating, regardless of tool capacity.
- Operate machine for 30 seconds before application to workpiece to determine if machine is working properly and safely before work begins.
- Always disconnect power supply before changing abrasive or making machine adjustments.
- Inspect abrasives and sanding pads for damage or defects prior to and during operation of tool.
- 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.

Note: To order replacement parts specify the **model** and **serial** number of your machine.

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)	Pad Inch (mm)	Weight Pound (kg)	Length Inch (mm)	Height Inch (mm)
All 5" Models	.31 (231)	900	1/4" NPT	91 dB(A)	4/25 (708)	90 (6.2)	5" (127)	2.9 (1.3)	10-1/4 (260)	4-1/2 (114)
All 6" Models	.31 (231)	900	1/4" NPT	91 dB(A)	4/25 (708)	90 (6.2)	6" (152)	2.9 (1.3)	10-1/4 (260)	4-1/2 (114)

Additional Specifications: Hose I.D. Size 3/8" (10mm)

Motor Disassembly/Assembly Instructions

Important: Manufacturers warranty is void if tool is disassembled before warranty expires.

A complete Tune-Up Kit, part number **96195**, is available which includes assorted parts to help maintain and repair motor. These instructions are for use in conjunction with part number **96283** Repair Kit, which includes special tools for proper disassembly/assembly of tool.

To Disassemble:

1. Disconnect tool from power source.
2. Invert machine and secure in soft jaw vise.
3. Remove sanding pad with 3mm. hex wrench.
4. Remove counterbalance:
 - a.) Remove **95898** Screw with 5mm. hex wrench. **Note:** To prevent counter balance rotation place a wrench on the counter balance.
 - b.) Remove counterbalance.
5. Pull out mounting plate sub-assembly.
6. Disassemble mounting plate sub-assembly:
 - a.) Remove **96276** Nuts (4) and **96274** Screws then lift out gear.
 - b.) Remove **96118** Screws (3).
 - c.) Press out **57335** Bearing by using **57091** Bearing Press Tool.
7. Remove **96166** Set Screw. **Note:** Remove **96150** Spacer if so equipped.
8. Insert an adjustable spanner wrench or **96337** Lock Ring Wrench in the holes of the **57332** Lock Ring and turn counterclockwise to loosen. Motor may now be lifted out for service.
9. Remove **95626** Retaining Ring from the motor shaft.
10. Attach a 2 in. bearing separator around the rear portion of the **54631** Cylinder nearest the rear bearing plate.
11. Place the separator on the table of a #2 arbor press with the larger end of the motor shaft pointing down.
12. Press the retaining ring end of the motor shaft out of the rear motor bearing by using a 3/16 in. flat nose punch.
13. Remove cylinder, rotor, blades and key.
14. Press the **57331** Shaft and **56052** Bearing out through the front end plate using a #2 arbor press.
15. Secure the **57749** Pinion in a soft jaw (bronze or aluminum) vise. With the **96182** Front Plate Removal Tool and a 3/8" ratchet, or breaker bar, turn the **57324** Front End Plate counterclockwise to loosen.
16. Remove **01206** Bearing from **54629** Rear Bearing Plate. Press **56052** Bearing from **57331** Motor Shaft.

To Assemble:

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

1. Use **57091** Press Tool and press **56052** Bearing onto **57331** Motor Shaft down to shoulder, seal side toward shoulder.
2. Apply 3 drops of #271 Loctite® (or equivalent) to outside of bearing. Assemble front bearing plate onto shaft and press plate on outer race of bearing.
3. Place rotor key, rotor, and blades onto shaft. **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 gap between the rotor and end plates.
4. Place **54631** Cylinder over rotor. The "short" line-up pin goes toward the front plate.
5. Place rear bearing plate (with **01206** Rear Bearing pressed into place) over shaft and "long" end of line-up pin and press fit in place using **57091** Press Tool.
6. Install **95626** Retaining Ring, **concave side toward motor**. **Note:** Be certain retaining ring is completely pressed down into its groove on the shaft.
7. Grease the rubber seals inside the housing using a small amount of multi-purpose grease or petroleum jelly.
Note: Be certain that rubber seals in housing have not been pulled out of their seat during disassembly. If this has happened re-seat seals by pushing them until they are flush with inside diameter of housing.
8. Slide motor assembly into housing. **Note:** With handle pointing down be certain line-up pin enters slot to the right of center.
9. Secure motor housing in a vice, using **57092** Collar or soft jaws (be careful not to over tighten tool in vise).
10. Tighten **57332** Lock Ring with **96337** Lock Ring Tool to 34.0 N•m/300 in. - lbs. Align holes in **57332** Lock Ring with hole in housing.
11. Apply a small amount of #242 Loctite® (or equivalent) to the threads of **96166** Set Screw. Use a 2mm hex key and install set screw into the housing through one of the holes in the lock ring until set screw is flush with the top of the lock ring.
12. Apply a bead of #242 Loctite® (or equivalent) to threads of **57330** Front End Plate. Screw **57749** Pinion onto **57330** Front Plate and torque to 34 N•m/300 in. - lbs. using **96181** Pinion Wrench.
13. Mounting Plate Sub-Assembly:
 - a.) Press **57335** Bearing into **57755** Mounting Plate.
 - b.) Insert **96118** Screws (3) and apply 1 drop of #271 Loctite® (or equivalent). **Note:** All screws should be hand tight before torque is applied.
 - c.) Press **57748** Gear into **57755** Mounting Plate, making sure to align mounting holes and that the **96273** O-Ring on back of gear is in place before assembly to mounting plate.
 - d.) Insert **96275** Washers into c-bore in gear.
 - e.) Apply 1 drop of #271 Loctite® (or equivalent) to **96274** Screws (4), insert through gear and thread into mounting plate torque 7.0 N•m/60 in. - lbs. Insert **96276** Nuts (4) and torque 7.0 N•m/60 in. - lbs.
14. Assemble mounting plate sub-assembly onto motor shaft machine assembly.
Note: If tool is equipped with **96150** Spacer be sure to replace it on the shaft prior to assembling the mounting plate onto shaft.
15. Assemble counterbalance to motor shaft.
16. Replace **95898** Screw to secure counterbalance. Apply 1 drop of #242 Loctite® (or equivalent) to threads and torque screw with 5mm hex wrench to 9.0 N•m/80 in. - lbs.). **Note:** To prevent counterbalance rotation with motor, use a wrench on the **57754** Counterbalance.
17. Attach sanding pad. Torque the **97010** Screws (4) to 3.38 N•m/30 in. - lbs. in alternating pattern.

(continued on page 4)

Motor Disassembly/Assembly Instructions (continued)

To Disassemble Valve And Speed Regulator Assemblies:

1. Invert tool and place in soft jaw vise or use **57092** Repair Collar.
2. Loosen and remove **01788** Screws (2) from **56672** Adapter.
3. Carefully remove **56672** Adapter making sure no parts fall to the ground. Pry off **54194** Muffler Cap and remove **54195** Muffler (3).
4. Remove **57343** Speed Regulator by detaching **98597** Retaining Ring with a pair of snap ring pliers. Remove **01024** O-Rings with a small screwdriver.
5. Remove tip valve and seal from handle.

To Assemble Valve And Speed Regulator Assemblies:

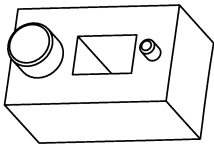
1. Lightly lubricate **01024** O-Rings and slide them on **57343** Speed Regulator. Install through regulator hole on **56672** Adapter. Place **98597** Retaining Ring on groove of speed regulator using a pair of retaining ring pliers.
2. Insert valve stem in handle and line up the hole in valve stem with hole in handle. Place **01464** Seal into handle. Insert tip valve so that the metal pin passes through the hole in the valve stem. Install **01468** Spring (small end first).
3. Install **98597** O-Ring onto **56672** Adapter and place **56673** gasket onto handle.
4. Gently line-up **56672** Adapter onto handle so no parts shift when tightening. Apply #242 Loctite® to **01788** Screws (2), install along with **01211** Lock Washers (2) and **96421** Flat Washer (2).

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

Note: Motor should operate at between 850-900 RPM at 6.2 bar (90 PSIG). RPM should be checked with a tachometer. Before operating, we recommend that 3-4 drops of pneumatic tool oil be placed directly into the air inlet with throttle lever depressed.

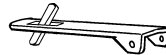
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Accessories



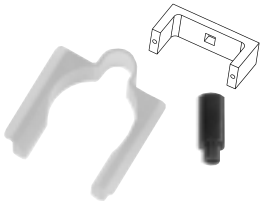
96182 Front Plate Removal Tool

- Used to remove **57324** Front Bearing Plate from **57749** Pinion Gear.



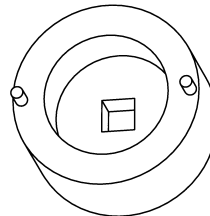
01089 Safety Lock Lever

- A **57375** Valve Stem or **57396** Universal Valve Stem must be used in conjunction with this lever to function properly.



96283 Motor Repair Kit

- Contains special tools for proper Disassembly/Assembly of machine.



96181 Pinion Wrench

- Used to install **57749** Pinion Gear onto **57324** Front Bearing Plate.



96195 Motor Tune-Up Kit

- Includes assorted parts to help maintain and repair motor.



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

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