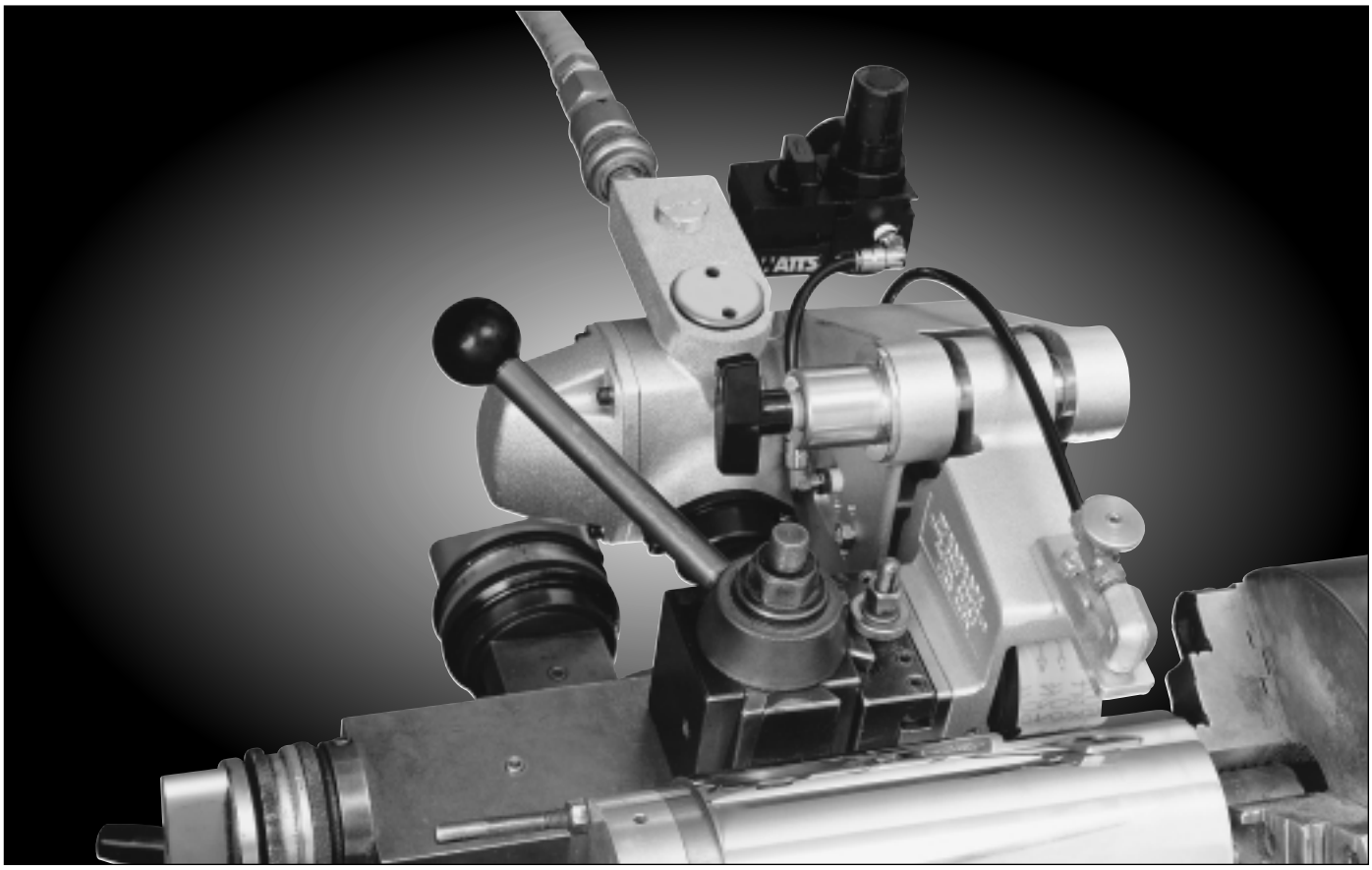
For Serial No.9l1001 and Higher

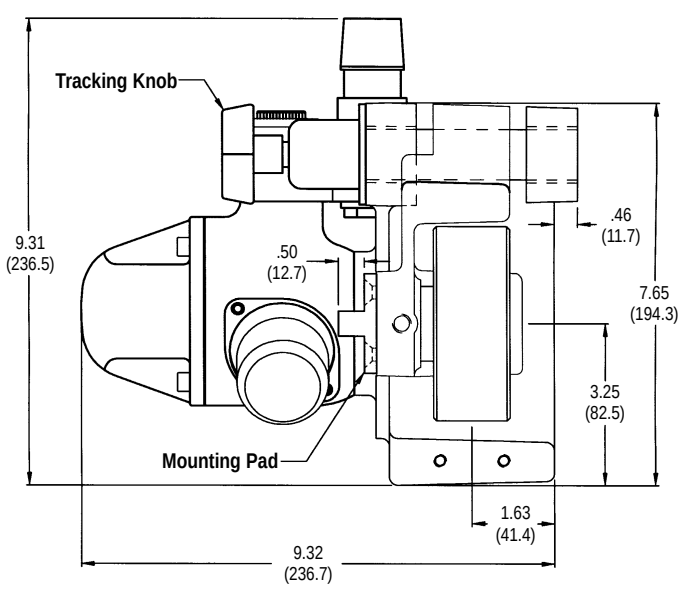
Parts Page Reorder No. PD00•50
Effective June, 2000
Supercedes PD96•16

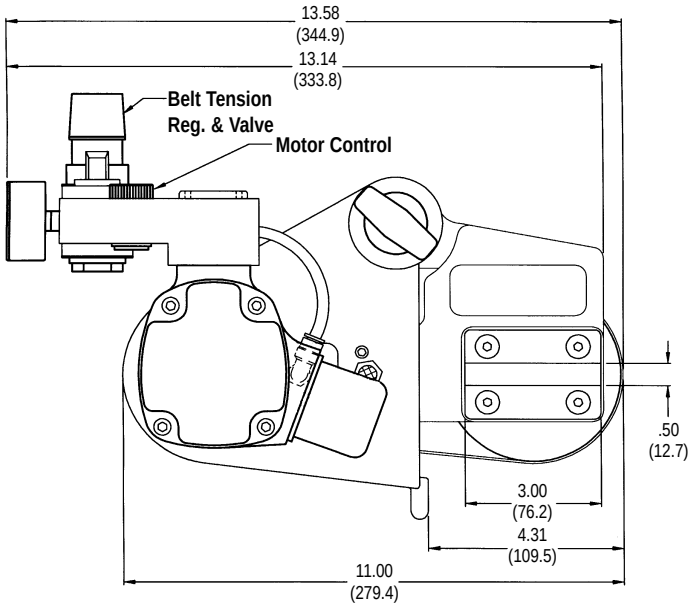
66402 Tool Post Grinder Instruction Manual

Air Powered Abrasive Belt Machine

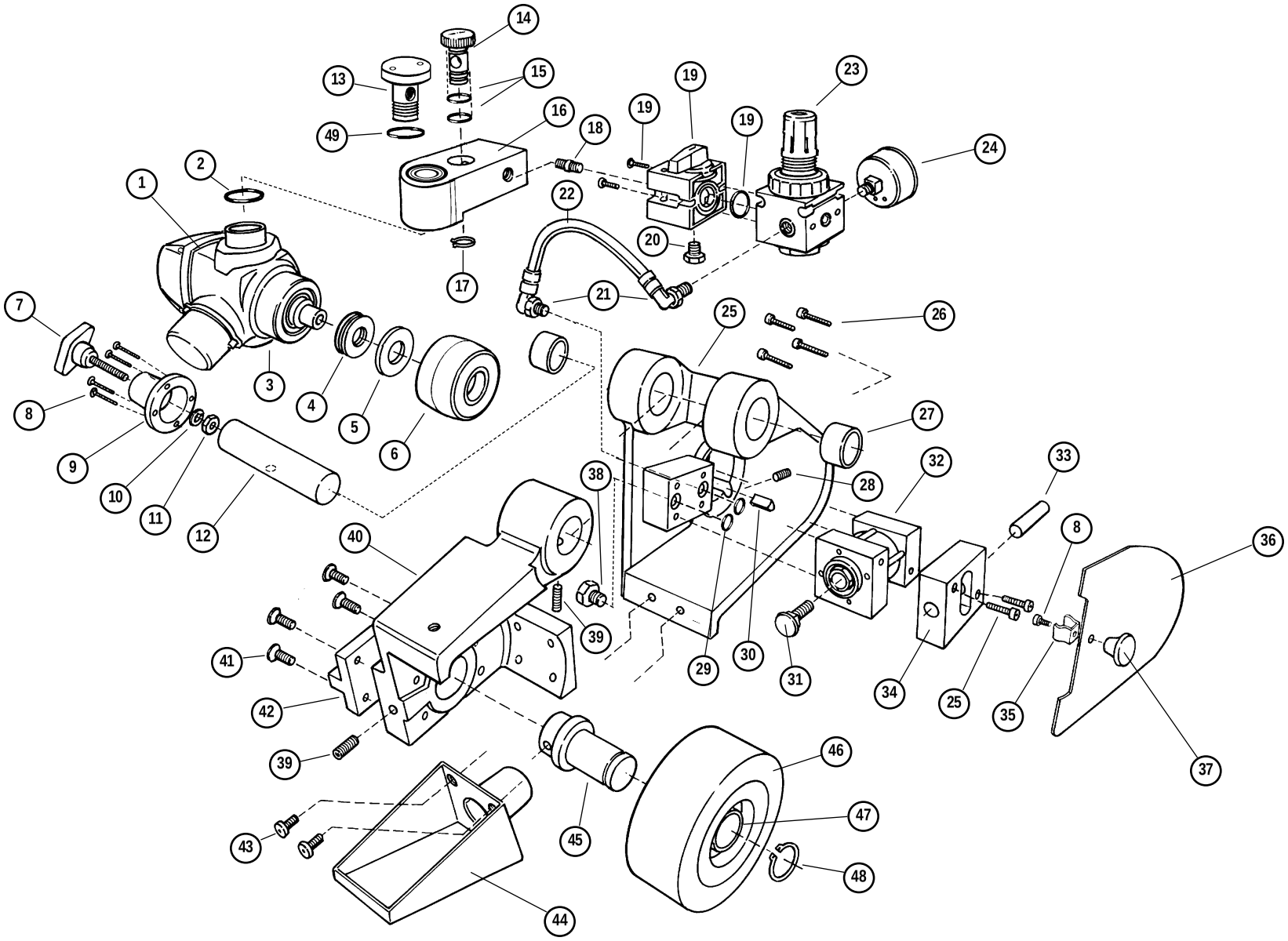
⚠WARNING **Always operate, inspect and maintain this tool in accordance with the Safety Code for portable air tools (ANSI B186.1) and any other applicable safety codes and regulations. Please refer to Dynabrade's Warning/Safety Operating Instructions for more complete safety information.**







66402 Tool Post Grinder-Machine Parts Breakdown

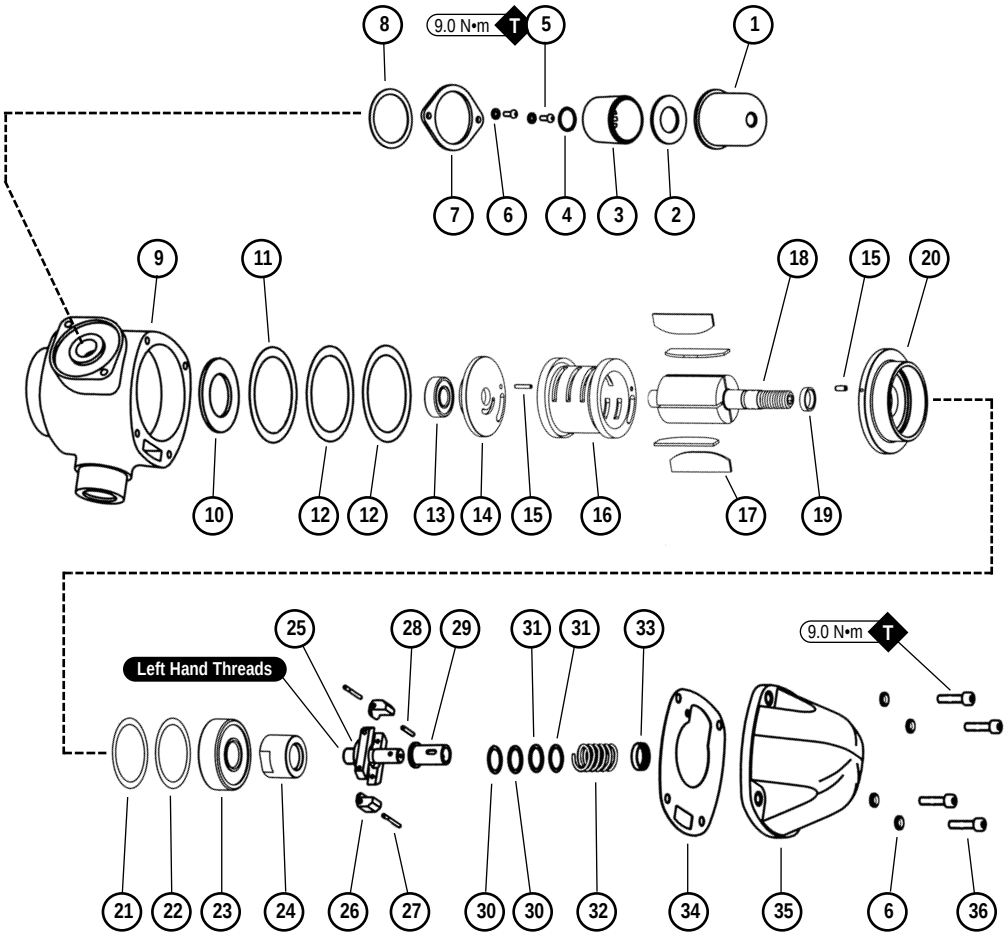


Machine Number	Length Inch (mm)	Width Inch (mm)	Height Inch (mm)	Machine Weight	Abrasive Belt Size	Air Inlet Thread	Hose Size	Air Pressure	Motor RPM	SFPM	SCFM Required
66402	13 5/8" (345)	9 3/4" (248)	9 3/8" (238)	19 lbs. (8.60 kg)	1-1/2" W x 24" L	3/8" NPT	1/2"	90 PSI	7,200	4,700	47

Index Key

No.	Part #	Description
1	**66440**	Air Motor
2	**66435**	O-Ring
3	**97565**	Thrust Washer
4	**97813**	Seal
5	**66413**	Spacer
6	**66412**	Drive Wheel
7	**95314**	Knob
8	**97152**	Cap Screw (5)
9	**65132**	Tracking Hub
10	**95417**	Washer
11	**95186**	Nut
12	**66419**	Tracking Shaft
13	**66427**	Ported Screw
14	**95740**	Air Control Stem
15	**95526**	O-Ring (2)
16	**66427**	Manifold
17	**95525**	Retaining Ring
18	**97896**	Close Nipple
19	**97894-B**	Valve Assembly
20	**97435**	Silencer
21	**97828**	Elbow Fitting
22	**97829**	Tubing (6 in.)
23	**97894-C**	Regulator Assembly
24	**95696**	Gage
25	**66421**	Rear Housing
26	**97050**	Cap Screw (6)
27	**97550**	Bushing (2)
28	**97108**	Set Screw (2)
29	**01025**	O-Ring (2)
30	**66418**	Motor Lock (2)
31	**97069**	Carriage Screw
32	**97805**	Cylinder
33	**66424**	Pin
34	**66423**	Extension Block
35	**97772**	Spring Clip
36	**66422**	Cover
37	**97733**	Knob
38	**97889**	Breather Vent
39	**97112**	Set Screw (2)
40	**66420**	Front Housing
41	**97083**	Cap Screw (4)
42	**66416**	Mount
43	**97058**	Cap Screw (2)
44	**66425**	Vacuum Scoop
45	**66417**	Contact Wheel Shaft
46	**66430**	Contact Wheel
47	**97516**	Bearing
48	**97435**	Retaining Ring
49	**66434**	O-Ring

66440 Air Motor



Key

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

Index Key

No.	Part #	Description
1	**52164**	Exhaust Cover
2	**52166**	Seal
3	**94522**	Muffler Cap
4	**95375**	O-Ring
5	**50511**	Screw (2)
6	**01791**	Split Lock Washer (3)
7	**52180**	Exhaust Clamp
8	**52161**	Gasket
9	**66442**	Housing Assembly
10	**01823**	Washer
11	**96151**	Shim
12	**96152**	Shim (2)
13	**01036**	Bearing
14	**52476**	Rear End Plate
15	**01672**	Spring Pin
16	**52475**	Cylinder
17	**52474**	Rotor Blade (4/pkg.)
18	**52466**	Rotor
19	**52467**	Rotor Spacer
20	**52472**	Front End Plate
21	**52469**	Shim
22	**52470**	Shim
23	**01825**	Bearing
24	**01815**	Spindle Nut
25	**52478**	Governor Cage
26	**52498**	Governor Weight (2)
27	**96059**	Grooved Pin (2)
28	**50468**	Pin
29	**50541**	2.0Hp Governor Valve
30	**52174**	Shim (2)
31	**52175**	Shim (2)
32	**01829**	Spring
33	**50548**	Spring Holder
34	**52477**	Gasket
35	**52461**	Governor Cover
36	**95720**	Screw (4)

66440 Air Motor Disassembly/Assembly Instructions

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

To Disassemble:

1. Disconnect power source from machine.
2. Remove machine from lathe mount and remove abrasive belt. Loosen **97108** Set Screws (2) on machine housing
3. Slide **66440** Air Motor from machine housing.
4. Remove drive wheel by inserting a 1/4" Hex Wrench into end of rotor shaft and twist drive wheel from motor.
5. Remove **66413** Spacer and **97813** Seal from rotor shaft.
6. Secure motor housing in padded vise with housing cover facing upwards.
7. Remove **95720** Screws (4) and **01791** Washers and lift off cover.
8. Remove motor assembly from motor housing.
9. Remove governor cage assembly (left handed threads).
10. Press **52466** Rotor from **52476** Bearing Plate and **01036** Bearing. Press bearing from bearing plate.
11. Remove cylinder and rotor blades. Secure rotor in vise and remove rotor nut.
12. Remove **52472** Bearing Plate from rotor. Press **52469** & **52470** Shims and **01825** Bearing from bearing plate.

To Reassemble:

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

1. Install **52469** & **52470** Shims into **52472** Bearing Plate so they seat flush.
2. Press in **01825** Bearing. Install assembly on to rotor shaft.

(continued on page 4)

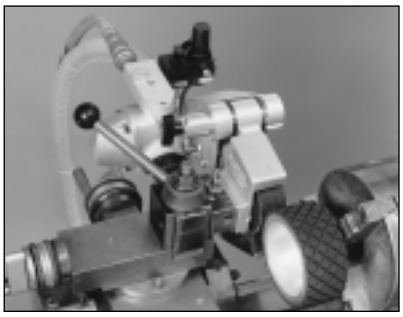
66440 Air Motor Disassembly/Assembly Instructions (continued)

3. Install rotor nut (with wrench flats towards rotor) onto rotor shaft (torque 250 In-lbs.).
4. Check clearance between rotor and bearing plate. Clearance should not exceed .002".
5. Press **01036** Bearing into **52476** Bearing Plate.
6. Install blades and cylinder onto rotor. Make sure air inlet holes in cylinder line up with air inlet holes in bearing plate.
7. Press **52476** Bearing Plate and bearing onto rotor. Line up pin holes and air inlet holes.
8. Check rotation of rotor. Rotor should turn freely and the cylinder walls should be flush with bearing plate edges.
9. Install governor cage assembly onto rotor (left hand threads). Torque 80 In-lbs.
10. Insert motor assembly into motor housing. Line up **01673** Pin in bearing plate with pin slot in motor housing.
11. Replace gasket and housing cover and secure with **95720** Screws (4) and **01791** Washers (torque 80 In-lbs.).
12. Replace **66413** Spacer and **97813** Seal onto rotor shaft (suction cup end of **97813** Seal should face motor housing).
13. Replace drive wheel.
14. Insert motor into machine housing.
15. Tighten **97108** Set Screws (2) to lock motor in position.

Reassembly is complete. Check motor RPM with a tachometer. If motor is opening at a higher RPM than marked on the tool, then the tool should be serviced to correct he cause before use. Before operating we recommend that 3-4 drops of air tool oil be placed directly into the air inlet.Operate tool for approximately 30 seconds prior to application to work piece to determine if tool is operating properly and safely and to allow lubricating oils to thoroughly penetrate tool.

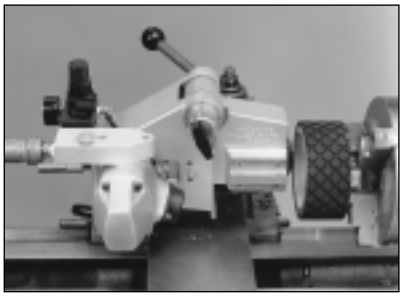
Mounting and Machine Adjustment Instructions

Turning Passes (Standard Mounting):

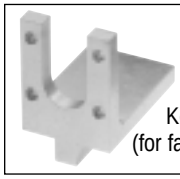


1. Install machine, using **66416** Key Mount, into standard cutting tool holder on lathe and tighten.
2. Position tool holder so contact wheel of machine is at or slightly above work piece centerline.
3. Adjust angle of contact wheel, using a dial indicator (not included), so face of contact wheel is parallel to lathe center line .
   Important: Abrasive belt cannot be on tool during this procedure.
4. Install abrasive belt on tool (see "Abrasive Belt Change/Installation").
5. Begin operating procedures.

Facing Passes (optional 66439 Key Mount must be used):



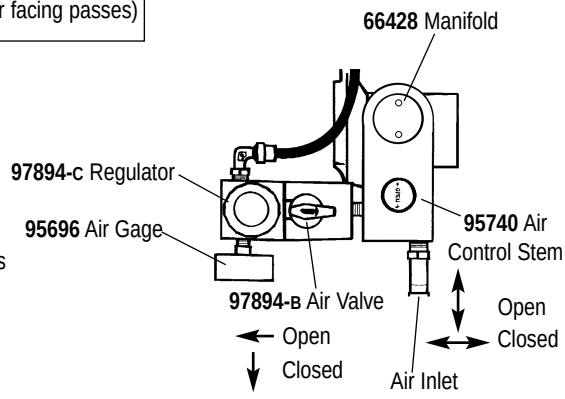
1. Install **66439** Key Mount to back of **66420** Front Housing with the four (4) screws supplied with mount. Key of **66420** Mount should face forward.
2. Install machine offset 90 degrees from standard mount into cutting tool holder
3. Position tool holder so contact wheel of machine is at or slightly above work piece centerline.
4. Adjust angle of contact wheel using a dial indicator (not included) so face of contact wheel is perpendicular to lathe center line.
   Important: Abrasive belt cannot be on tool during this procedure.
5. Install Abrasive belt on tool (see "Abrasive Belt Change/Installation")
6. Begin operating procedures.



66439
Key Mount
(for facing passes)

Abrasive Belt Change/Installation:

1. Turn air control valves on air regulator and 66411 Manifold to off positions.
2. Disconnect power source from machine.
3. Remove **66422** Cover and position belt over drive wheel and contact wheel.
4. Replace **66422** Cover.
5. Turn **97894-B** Air Valve on air tension assembly to open position and adjust belt tensions to 60 PSI by turning **97894-C** Regulator to right or left accordingly.
   Note: Always adjust air pressure up to set point, never adjust down.
6. Adjust belt tracking (see "Belt Tracking Adjustment").



Belt Tracking Adjustment:

1. With abrasive belt installed and belt tension set, turn **95740** Air Control Stem on manifold to the open position. Abrasive belt will begin rotation.
2. Adjust belt tracking by turning the **95314** Knob to the left or right accordingly so the belt rides evenly over contact wheel.

Important Operating, Maintenance and Safety Instructions

Carefully read all instructions before operating or servicing any Dynabrade® Abrasive Power Tool.
Important: All Dynabrade 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 tool to lathe (see Mounting and Machine Adjustment Instructions, page 3).
2. Install Abrasive Belt on tool (see Abrasive Belt Change/Installation Instructions, page 3).
3. Operate machine for 30 seconds prior to application to work piece to determine if machine is working properly and safely before work begins.

Maintenance Instructions:

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

1. 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.
2. Some silencers on air tools may clog with use. Clean and replace as required.
3. All Dynabrade air motors should be lubricated with two drops of Dynabrade Air Lube (P/N **95842**: 1pt. 473ml.) every four hours of use.
4. An Air Line Filter-Regulator-Lubricator must be used with this air tool to maintain all warranties. Dynabrade recommends the following: **11299** Air Line Filter-Regulator-Lubricator — Provides accurate air pressure regulation, two-stage filtration of water contaminants and positive-drip lubrication of pneumatic components. Operates 100 SCFM @ 100 PSI has 1/2" NPT female ports.
5. Good house keeping is essential to insure long life of any machine tool. By keeping machine clean and visually inspected for any wear, the machine will provide many years of quality service. Repair or replacement of worn parts early enough will prevent other parts from becoming damaged.

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
- 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 accessories 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.
- Never use an abrasive belt that is narrower than the contact wheel. The uncovered wheel face can cause snagging of workpiece and also cause premature wear of contact wheel.
- Always use an upward stroke of the workpiece against the abrasive belt and use the grind area below the center line of the contact wheel.
- **Warning:** There is a potential combustion hazard if ferrous and non-ferrous grinding dust is mixed. Do not grind materials of different types without thoroughly cleaning grinding residue from inside the machine.

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.

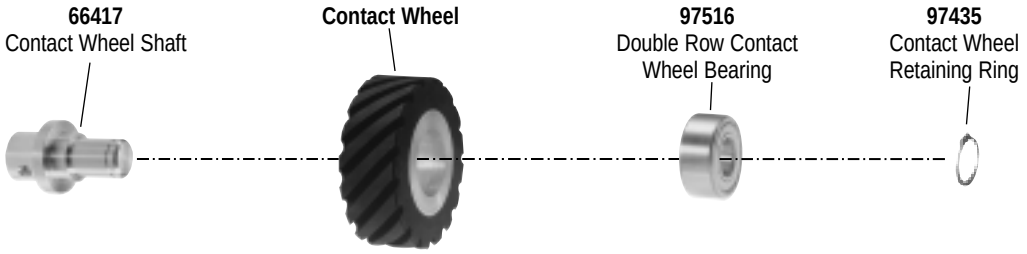
Note: To order replacement parts specify the model and serial number of your machine.

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.

Contact Wheel Assembly

Contact Wheel Assembly Parts (sold separately)



Contact Wheel Change:

1. Turn air control valves to closed position. Disconnect power source from tool.
2. Remove belt from tool.
3. Remove **97112** Set Screw from front housing and remove entire contact wheel assembly.
4. Remove **97435** Retaining Ring.
5. Press **66417** Contact Wheel Shaft from contact wheel and bearing.
6. Press new contact wheel, with bearing installed, onto contact wheel shaft.
7. Line up recess hole in contact wheel shaft with set screw hole in front housing. Replace and tighten set screw with shoulder of contact wheel shaft pressed firmly against machine face of front housing.

Accessories

95800 Hose Cuff 1-1/4" x 1-1/4" (32mm x 32mm) Dia.

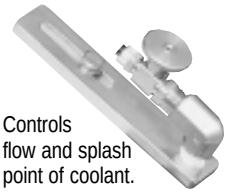
One cuff (not installed). Mounts directly to machine.

54205 Exhaust Hose 1-1/4" (32mm) Diameter

By-the-foot (no cuffs); specify up to 50 feet (15 meters).

66438 Coolant Nozzle Assembly

For wet operations.



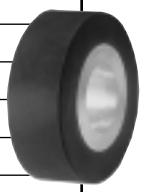
Controls flow and splash point of coolant.

66439 Key Mount

66439 Mount

Allows offset tool installation for "facing" passes.

Precision Tool Post Grinder Contact Wheels			
Part No.	Diameter	Width	Face Material
66429	4"	1-1/2"	50 Duro Plain Neoprene
66430	4"	1-1/2"	70 Duro Plain Neoprene
66431	4"	1-1/2"	90 Duro Plain Neoprene
66432	4"	1-1/2"	70 Duro Serrated Neoprene
66433	4"	1-1/2"	90 Duro Serrated Neoprene



96259 Motor Tune-Up Kit:

Includes assorted parts to help maintain motor in tip-top shape.

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