Parts Page Reorder No. PD05•18
Effective March, 2005

Versatility Grinder

Tool Manual – Safety, Operation and Maintenance

SAVE THIS DOCUMENT, EDUCATE ALL PERSONNEL

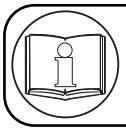
1 HP Variable Speed Model:
64881 (230v) 1 Phase 50 Hz



⚠ WARNING

Read and understand this tool manual before operating your tool. Follow all safety rules for the protection of operating personnel as well as adjacent areas. For 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 Electric Motor Operated Tools – Safety Requirements and applicable State and Local Regulations.

SAFETY LEGEND



⚠ WARNING

Read and understand tool manual before work starts to reduce risk of injury to operator, visitors, and tool.



⚠ WARNING

Eye protection must be worn at all times, eye protection to conform to ANSI Z87.1.



⚠ WARNING

Respiratory protection to be used when exposed to contaminants that exceed the applicable threshold limit values required by law.

⚠ WARNING

Practice safety requirements. Work alert, have proper attire, and do not operate tools under the influence of alcohol or drugs.



⚠ WARNING

Ear protection to be worn when exposure to sound, exceeds the limits of applicable Federal, State or local statues, ordinances and/or regulations.



⚠ WARNING

Electric shock hazard. Avoid bodily contact with grounded objects, bodies of water. Do not damage cord set.



⚠ WARNING

Pull in/trapping hazard. Avoid bodily contact with belts, drive wheels and any moving parts.



GENERAL SAFETY INSTRUCTIONS

Carefully Read and save 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 without expressed written consent from Dynabrade, Inc.

Warning: When using electric tools, basic safety precautions should always be followed to reduce the risk of a fire, electric shock, and personal injury, including the following:

1. **Keep work area clean.** Cluttered areas and benches invite accidents.
2. **Consider work area environment.** Do not expose tools to rain. Keep work area well lit. Do not use power tools in damp or wet locations. Do not use tools in the presence of flammable liquids or gases.
3. **Guard against electric shock.** Be certain machine is adequately grounded before operating.
4. **Keep children away**. Do not let visitors contact tool. All visitors should be kept away from work area.
5. **Do not force tool.** It will do a better and safer job at its intended rate.
6. **Use the right tool.** Do not force a small tool or attachment to do the job of a heavy duty tool. Do not use tool for purposes not intended.
7. **Dress properly.** Do not wear loose fitting clothing or jewelry. Clothes can be caught in moving parts. Wear protective hair covering to contain long hair.

(continued on next page)

8. **Use safety glasses.** Also use face-shield or dust mask if operation area is dusty.
9. **Do not abuse cord.** Never carry tool by cord or yank it to disconnect from receptacle. Keep cord from heat, oil and sharp edges.
10. **Do not overreach.** Keep proper footing and balance at all times.
11. **Maintain tools with care.** Keep tools clean for better use and safer performance. Follow instructions for changing accessories. Inspect tool cords periodically and if damaged, have repaired by authorized service facility. Inspect extension cords periodically and replace if damaged. Keep handles dry, clean and free from oil and grease.
12. **Do not leave tool running**. Disconnect tools when not in use, before servicing, when changing belts, contact arms, etc.
13. **Remove keys and wrenches.** Form a habit of checking to see that all keys and adjusting wrenches are removed from tool before turning it on.
14. **Avoid accidental starting.** Be sure switch is off when plugging in.
15. **Out-door use extension cords**. When tool is used outdoors, use only extension cord suitable for outdoor use. They should be marked with the suffix W-A (for UL) or W (for CSA in Canada).
16. **Stay alert**. Watch what you are doing. Use common sense. Do not operate tool when you are tired.
17. **Check damaged parts**. Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, breakage of moving parts, binding of moving parts, mounting and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced by an authorized service center unless otherwise ndicated elsewhere in this instruction manual. Have defective switches replaced. Do not use tool if switch does not turn tool on or off.
18. **Avoid gaseous areas.** Do not operate electric tools in gaseous or explosive atmospheres. Motors in these tools normally spark, and the sparks can ignite fumes.
19. **Do not alter or misuse tool.** This tool is precision built. Any alteration or modification not specified is misuse and may result in a dangerous condition. Only these accessories and attachments that are found in this instruction manual are acceptable for use with this tool. The use of any other accessory or attachment might present a risk to the operator.
20. **Replacement parts.** When servicing, use only identical replacement parts. When ordering replacement parts, please specify model and serial numbers of your machine.
21. **Do not operate tool without guards.** Always replace guards after changing contact arm or abrasive belt.
22. **Do not mix grind material.** There is a potential combustion hazard if ferrous and non-ferrous grinding dust is mixed. Clean inside machine between materials.
23. **Use hearing protection.** Permanent hearing loss can result from high process noise levels.
24. **Use correct width abrasive belt.** Using abrasive belt that is narrower than the contact wheel can cause snagging of the workpiece.
25. **Mount tool securely.** Always fasten tool to bench or other support structure to prevent tipping.

Voltage Warning

Before connecting the tool to a power source (receptacle, outlet, etc.), be sure the voltage supplied is the same as what is specified on the nameplate of the tool. A power source with greater than that specified for tool can result in **serious injury** to the user as well as damage to the tool. Using a power source with voltage less than the nameplate rating is harmful to the tool's motor. If in doubt, **do not plug in the tool.**

Polarized Plugs: To reduce the risk of electric shock, this equipment has a polarized plug (one blade is wider than the other). This plug will fit in a polarized outlet only one way. If the plug does not fit in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install the proper outlet. Do not change the plug in any way.
Warning: Keep extension away from the immediate working area.

Line Fuse Information

Use two (2) 20 amp 250V Bussman type ABC or equivalent fast acting fuses.

Set-Up/Operation Instructions

SET-UP

1. Read provided manual, including safety instructions and set-up instructions completely before beginning set-up.
2. Securely fasten Versatility Grinder through bench mount bracket to bench or other support to prevent tipping.
3. With air valve in rearward, OFF position, connect 1/4" NPT air inlet to 60-100 psi compressed air source.
4. With motor controls in STOP or OFF position, connect to ground and required AC line voltage as noted in Machine Specifications.
5. Install abrasive belt as noted in Abrasive Belt Installation.
6. With motor controls in STOP or OFF position, loosen locking knob, P/N **97741**, adjust Pivoting Contact Arm Support for the operator's comfort and re-tighten locking knob.

OPERATION

1. With abrasive belt installed, and motor controls in STOP or OFF position, always start by setting motor control speed CCW to the minimum value.
2. Set motor controls to START and FORWARD or REVERSE.
3. Adjust belt tracking using secondary adjustment knob on contact arm and primary linear adjustment knob as required.
4. Adjust motor control speed to desired value using affixed BELT SPEED chart for reference.
5. Tool is now ready for grinding.

Maintenance Instructions

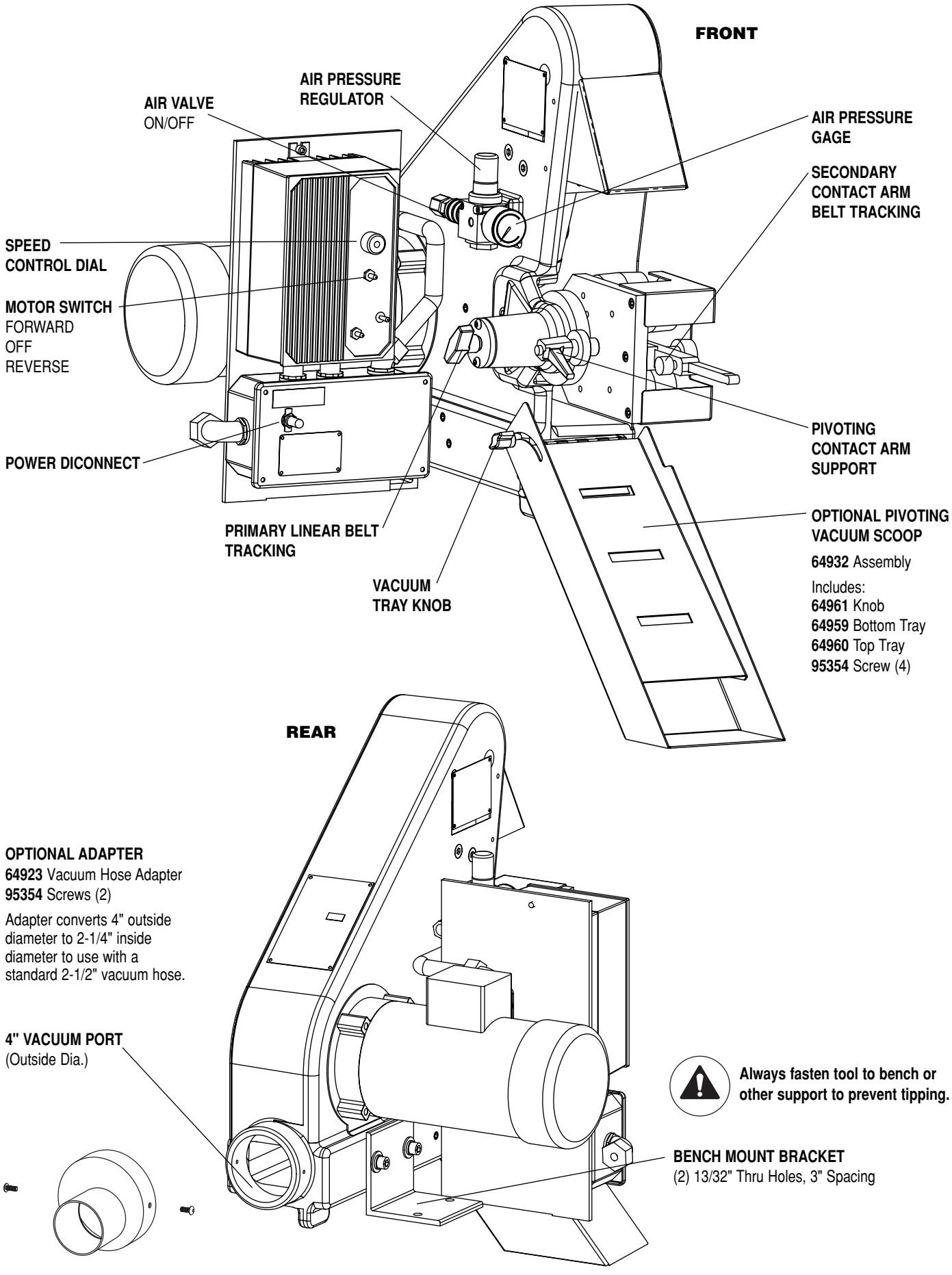
The grinder described in this manual has been designed to be maintenance-free. All bearing and moving parts are sealed and lubricated for life. Electric motor maintenance should be performed as recommended by the motor manufacturer.

Good housekeeping is essential to insuring long life of any machine tool. By keeping the machine clean and visually inspected for any wear, the machine will provide many years of service.

Before each use inspect the contact wheels, idler rolls and drive pulley for any signs of wear. Repairing or replacing worn parts early enough will prevent other parts from becoming damaged.

For Models:
64881

Versatility Grinder Controls/Features



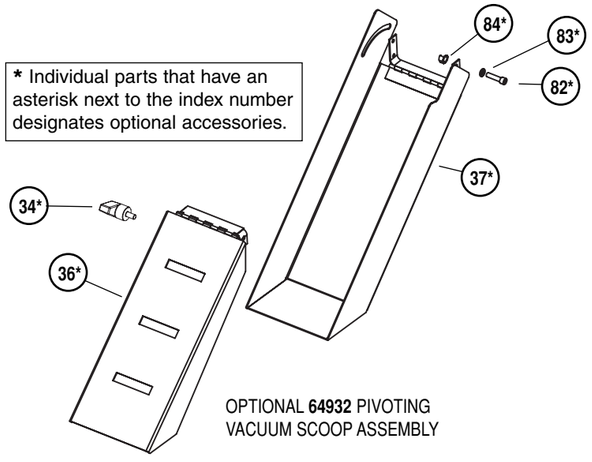
Versatility Grinder Complete Assembly

For Model:
64881

Index Key

No.	Part #	Description
1	**98709**	90˚ Elbow (2)
2	**98416**	Cord (10')
3	**95178**	Screw (4)
4	**01211**	Lock Washer (4)
5	**97546**	Washer (4)
6	**64848**	Variable Speed Control
7	**64851**	Support Plate
8	**98746**	Lock Nut
9	**98022**	Electric Motor
10	**95183**	Washer (4)
11	**95042**	Lock Washer
12	**95492**	Screw (4)
13	**98788**	Cord Grip
14	**97553**	Bolt (4)
15	**95314**	Tracking Knob
16	**95417**	Washer (2)
17	**64934**	Bench Mount Bracket
18	**95476**	Screw (2)
19	**95044**	Lock Washer (8)
20	**95043**	Washer (4)
21	**97545**	Screws (2)
22	**64957**	Tracking Knob Support
23	**95186**	Hex Nut (3)
24	**97441**	Snap Ring
25	**64954**	Tracking Shaft
26	**97741**	Locking Knob
27	**64952**	Locking Hub
28	**64956**	Bronze Bushing
29	**97086**	Screw (2)
30	**64936**	Restricted Fitting
31	**95696**	Pressure Gauge
32	**97026**	Screw (2)
33	**97894-C**	Regulator
34*	**64961**	Vacuum Tray Knob
35*	**95354**	Bolts (2)
36*	**64959**	Bottom Vac Tray
37*	**64960**	Top Vac Tray
38	**64940**	Housing
39	**64933**	Slide Valve
40	**64937**	Air Inlet
41	**64948**	Idler Shaft Support (2)
42	**95697**	Snap Ring (2)
43	**11813**	Bearing
44	**64950**	Idler Wheel
45	**95016**	Set Screw
46	**64944**	Idler Wheel Base
47	**64949**	Idler Wheel Shaft
48	**95536**	Screw (10)
49	**64946**	Guide Rod
50	**97812**	Rod Seal (2)
51	**95334**	Hex Nut
52	**65217**	Guide Rod Bushing (2)
53	**64947**	Air Cylinder & Nut
54	**64943**	Idler Cylinder Mount
55	**97889**	Breather Vent
56	**97816**	Seal
57	**64955**	Angular Stop Plate
58	**97217**	Hex Nut (2)
59	**95624**	Set Screw
60	**64938**	1/4" Tubing (7")
61	**97828**	Right Angle Fitting
62	**64951**	Pivot Plate
63	**65557**	Drive Wheel
64	**95202**	Set Screw
65	**97535**	Pivot Plate Bushing
66	**97311**	Pivot Plate Washer
67	**97236**	Pivot Plate Nut
68	**97558**	Nut
69	**64935**	Adapter
70	**65123**	Adapter Assembly
71	**67212**	Contact Arm Assembly
72	**97773**	Clamping Knob
73	**65428**	Tension Roll Assy. (4)
74	**64958**	Housing Cover
75	**64941**	Pivot Plate Post (2)
76*	**64923**	Vacuum Hose Adapter
77	**64945**	Tension Roll Cover
78	**97760**	Turn Latch (3)
79	**98751**	Sealing Ring
80	**64922**	Slack Guard
81	**95167**	1/4" Lock Washer (2)
82*	**95409**	Bolt (4)
83*	**97546**	Washer (4)
84*	**95294**	Hex Nut (4)
85	**95536**	Screw (12)
86	**64849**	1/2" Nipple
87	**64854**	Box Assembly
88	**64853**	Choke
89	**64852**	EMI Filter
90	**95294**	Hex Nut (2)
91	**64847**	Fuse Block
92	**97210**	Hex Nut (2)
93	**98500**	On/Off Plate
94	**98499**	Toggle Boot
95	**64858**	Toggle Switch
96	**96503**	Screw (2)
97	**64846**	Fuse (2)
98	**98730**	45˚ Elbow
99	**98403**	Flexible Conduit
100	**98709**	90˚ Elbow

***** Individual parts that have an asterisk next to the index number designates optional accessories.



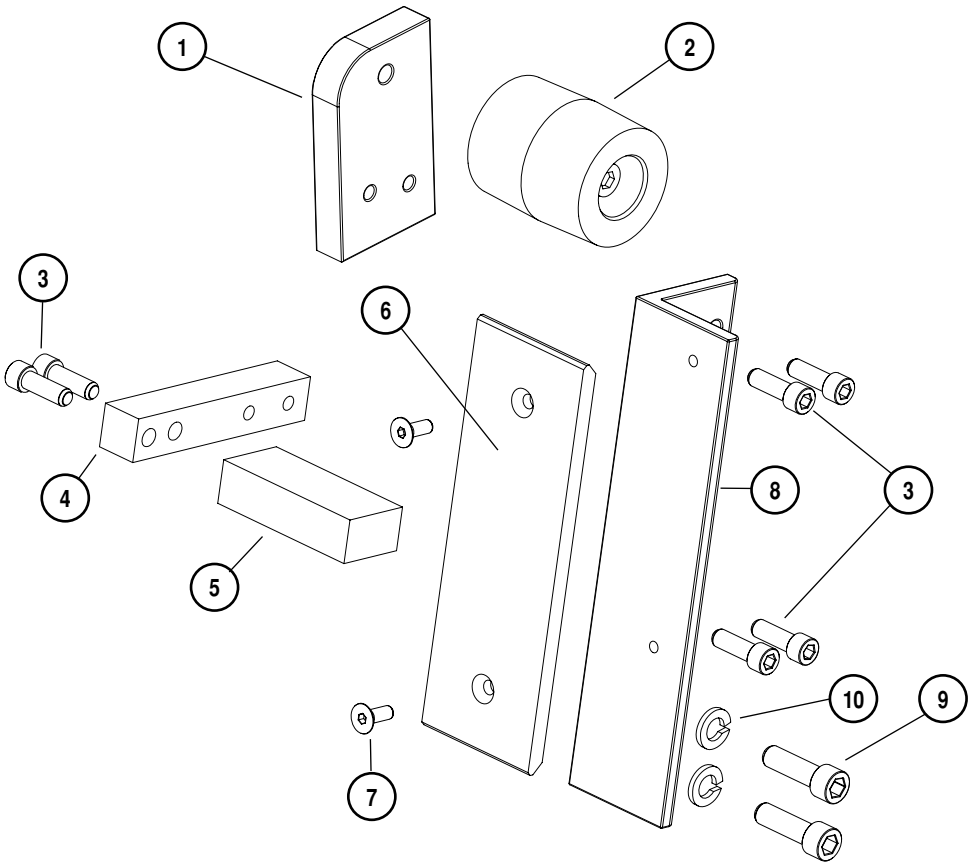
OPTIONAL **64932** PIVOTING VACUUM SCOOP ASSEMBLY

Note: For complete assembly diagram please refer to page 7 in this tool manual.

KEY

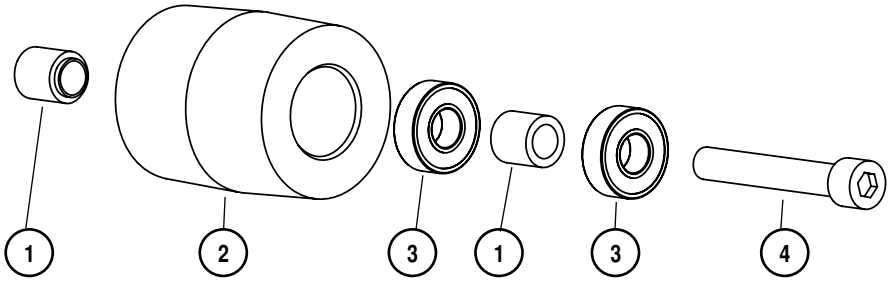
- A — Adhesive: **A_1 = Loctite #609**, **A_2 = Loctite #271**, **A_8 = Loctite #567**
- T — Torque: **N•m x 8.85 = In. - lbs.**

64962 Platen/Work Rest Assembly



Index Key		
No.	Part #	Description
1	**64965**	Platen Tension Roll Base
2	**65428**	Tension Roll Assembly
3	**95150**	Screw (6)
4	**64966**	Work Rest Support
5	**64967**	Work Rest
6	**64964**	Platen
7	**95353**	Platen Screw (2)
8	**64963**	Platen Base
9	**97023**	Base Screw (2)
10	**95042**	Lock Washer (2)

65428 Tension Roll Assembly



Index Key		
No.	Part #	Description
1	**64857**	Spacer (2)
2	**64856**	Idler Wheel
3	**50722**	Bearing (2)
4	**97021**	Screw

Notice

All Dynabrade tools use the highest quality parts and metals available and are machined to exacting tolerances. Our warranty obligation is contingent upon proper use of our tools and cannot apply to equipment which has been subjected to misuse or a lack of maintenance 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.

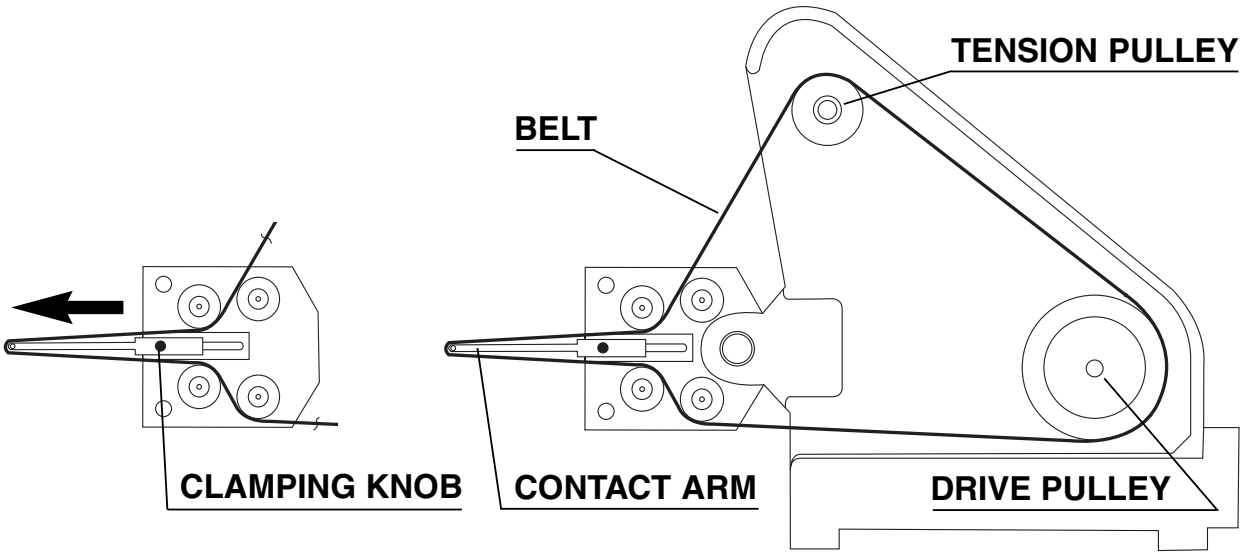
⚠ WARNING

Some dust created by 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.

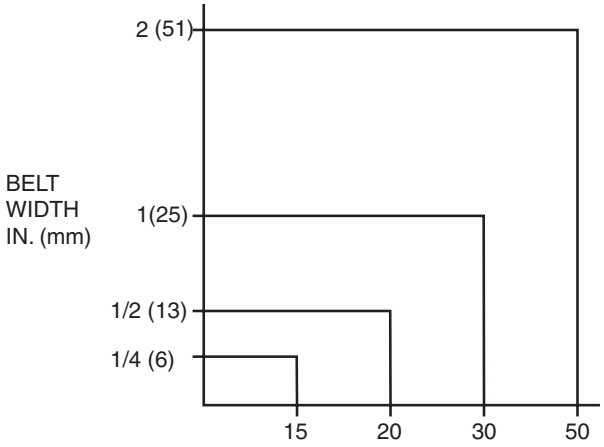
Abrasive Belt Installation



Abrasive Belt Installation Instructions

1. Turn speed control dial to "0" and motor switch to "off".
2. Push air valve towards back of machine to retract tension pulley.
3. Remove housing cover and tension roll cover.
4. Slide abrasive belt into position shown above in abrasive belt installation diagram, centering belt on pulleys and contact arm. If necessary, loosen clamping knob, and slide contact arm back to allow easier belt positioning. After belt is in place slide contact arm forward to take up belt slack.
5. Replace housing cover and tension roll cover.
6. Pull air valve toward front of machine to actuate tension pulley.
7. Adjust air pressure regulator for belt width (clockwise rotation increases pressure) according to Abrasive Belt Tension Diagram below.
8. Turn motor switch to forward or reverse.
9. Adjust belt tracking.
10. Adjust speed control dial to desired belt speed.

Abrasive Belt Tension Diagram



Transportation, Handling and Storage

The Versatility Grinder must be bolted to a standard shipping pallet and fully protected with cardboard covering for all instances of transportation. Use a forklift when moving palletized Versatility Grinder. Use a forklift to position and lift palletized Versatility Grinder prior to set-up. Transfer Versatility Grinder from pallet to work bench or other supporting surface by hand only. Never lift with straps, chains or hooks. Never lift above people.

If the Versatility Grinder is not set-up immediately upon receipt, it must be stored properly to prevent corrosion and deterioration.

Use these guidelines:

1. Place the Versatility Grinder under adequate cover. Keep the equipment clean and dry, protected from precipitation and flooding.
2. Maintain the following environment in the storage enclosure:
   - **A.** Ambient storage temperature limits from -25 °C to 70 °C (-13 °F to 158 °F).
   - **B.** Surrounding air free of dust and corrosive elements, such as salt spray or chemical and electrically conductive contaminants.
   - **C.** Ambient relative humidity from 5 to 95% with provisions to prevent condensation.
   - **D.** No rodents.
   - **E.** Avoid temperature variations that cause moisture condensation on the Versatility Grinder.

Time Limitations and Warranty

The above specifications apply to shipping and storage duration of up to one year. Longer times may require additional treatment.

Note: It is important that the specifications defined in this publication be followed at all times. Failure to do so will void the warranty.

Machine Specifications

Model Number	hp (W)	Electrical Specifications	SFPM (SMPM)	Weight Pound (kg)	Width Inch (mm)	Length Inch (mm)	Height Inch (mm)
64881	1 (744)	230V 1ph 50	600-4000 (183-1219)	120 (55)	17 (432)	33 (838)	22 (559)

Abrasive Belts

Grit	Material	1/4" x 72" (6mm x 1,830mm)	1/2" x 72" (13mm x 1,830mm)	1" x 72" (25mm x 1,830mm)	1-1/2" x 72" (38mm x 1,830mm)	2" x 72" (51mm x 1,830mm)	2" x 78" (51mm x 1,981mm)
40	Alumina Zirconia	84807	84808	84809	84810	84811	*84812
60	Alumina Zirconia	84771	84772	84773	84774	84775	*84776
80	Alumina Zirconia	84777	84778	84779	84780	84781	84782
120	Alumina Zirconia	84789	84790	84791	84792	84793	84794
180	Aluminum Oxide	84795	84796	84797	84798	84799	*84800
220	Aluminum Oxide	84801	84802	84803	84804	84805	*84806
Super Fine	Non-Woven Nylon	*83729	83730	83731	83732	83733	*83734
Very Fine	Non-Woven Nylon	*83735	83736	83737	83738	83739	*83740
Medium	Non-Woven Nylon	N/A	83741	83742	83743	83744	*83745
Coarse	Non-Woven Nylon	N/A	83746	83747	83748	83749	*83750
Cloth	Cloth	N/A	84841	*84842	*84843	*84844	*84845

*Non-stock item – please allow 2-4 weeks delivery. Minimum order quantities may apply.

Reference Contact Information

1. **American National Safety Institute – ANSI**
   25 West 43rd Street
   Forth Floor
   New York, NY 10036
   Tel: 1 (212) 642-4900
   Fax: 1 (212) 398-0023

2. **Government Printing Office – GPO**
   Superintendent of Documents
   Attn. New Orders
   P.O. Box 371954
   Pittsburgh, PA 15250-7954
   Tel: 1 (202) 512-1803

3. **European Committee for Standardization**
   Rue de Stassart 36
   B - 1050 Brussels, Belgium

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