

Versatility Grinder

Tool Manual – Safety, Operation and Maintenance

SAVE THIS DOCUMENT, EDUCATE ALL PERSONNEL

1 HP Variable Speed Models:

- 64900 (115v) 1 Phase 50/60 Hz
- 64901 (230v) 1 Phase 50/60 Hz

3 HP Variable Speed Models:

- 64902 (230v) 3 Phase 50/60 Hz
- 64903 (460v) 3 Phase 50/60 Hz

1-1/2 HP Models:

- 64904 (115v) 1 Phase 50/60 Hz
- 64905 (230v) 1 Phase 50/60 Hz



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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 Requirements for the Use, Care and Protection of Abrasive Wheels – ANSI B7.1, and Safety Requirements for Abrading Materials with Coated Abrasive Systems – ANSI B7.7, Compressed Air and Gas Institute (CAGI) Safety Code for Portable Air Tools – B186.1, Code of Federal Regulation – CFR 29 Part 1910, International Organization for Standardization (ISO) Hand Held Non-Electric Power Tools – Safety Requirements ISO 11148 series and applicable State and Local Regulations.



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



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



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



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



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



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.

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.

(continued on next page)

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.
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 indicated 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.

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.

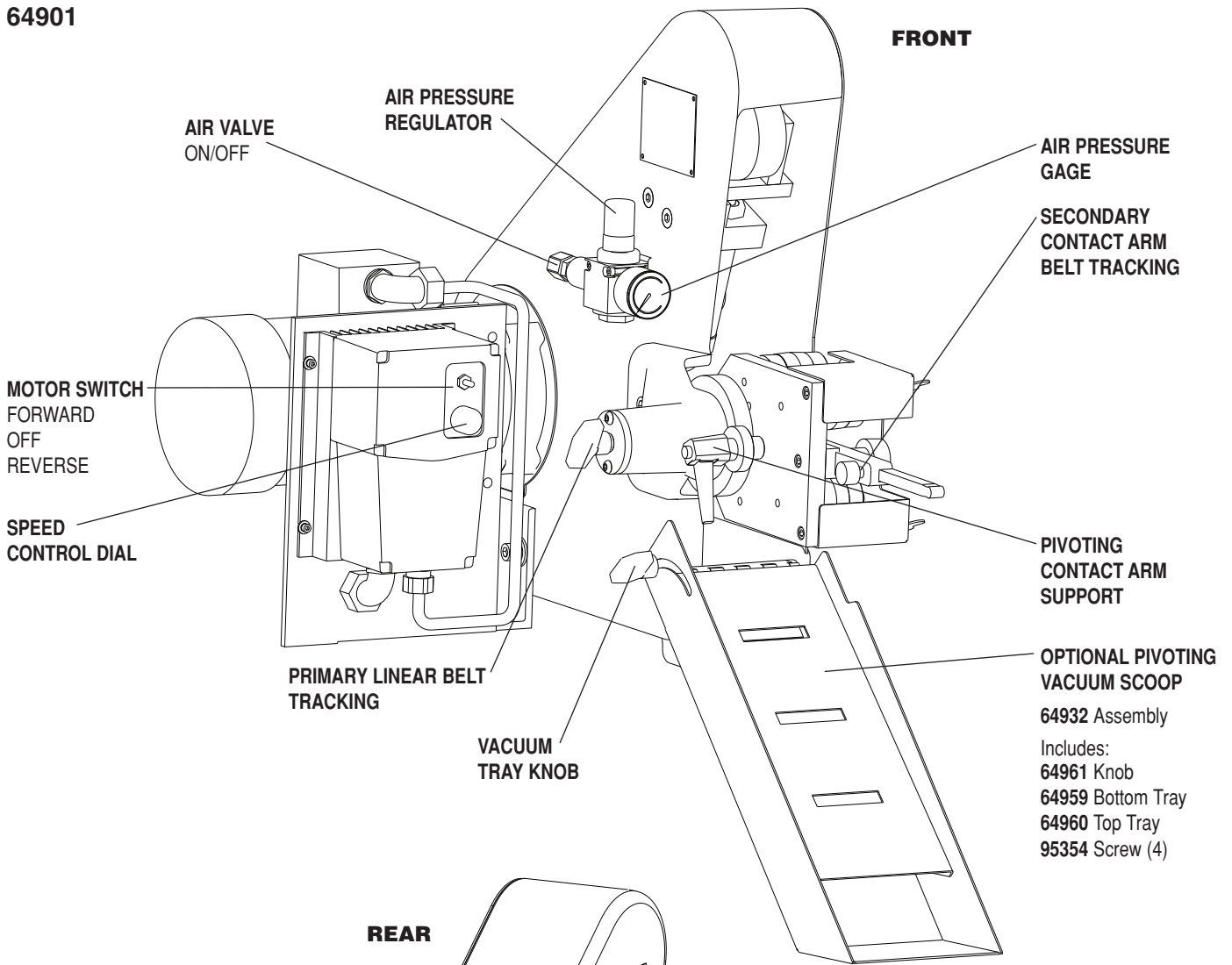
Good housekeeping is essential to insuring long life of any machine tool. By keeping the machine clean and visually inspected for any wear, the machine will provide many years of service.

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:
64900
64901

Versatility Grinder Controls/Features

FRONT



MOTOR SWITCH
 FORWARD
 OFF
 REVERSE

SPEED CONTROL DIAL

AIR VALVE ON/OFF

AIR PRESSURE REGULATOR

AIR PRESSURE GAGE

SECONDARY CONTACT ARM BELT TRACKING

PRIMARY LINEAR BELT TRACKING

PIVOTING CONTACT ARM SUPPORT

VACUUM TRAY KNOB

OPTIONAL PIVOTING VACUUM SCOOP

64932 Assembly

Includes:

64961 Knob

64959 Bottom Tray

64960 Top Tray

95354 Screw (4)

REAR

OPTIONAL ADAPTER

64923 Vacuum Hose Adapter

95354 Screws (2)

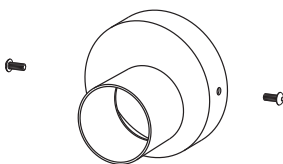
Adapter converts 4" outside diameter to 2-1/4" inside diameter to use with a standard 2-1/2" vacuum hose.

4" VACUUM PORT
 (Outside Dia.)



Always fasten tool to bench or other support to prevent tipping.

BENCH MOUNT BRACKET
 (2) 13/32" Thru Holes, 3" Spacing

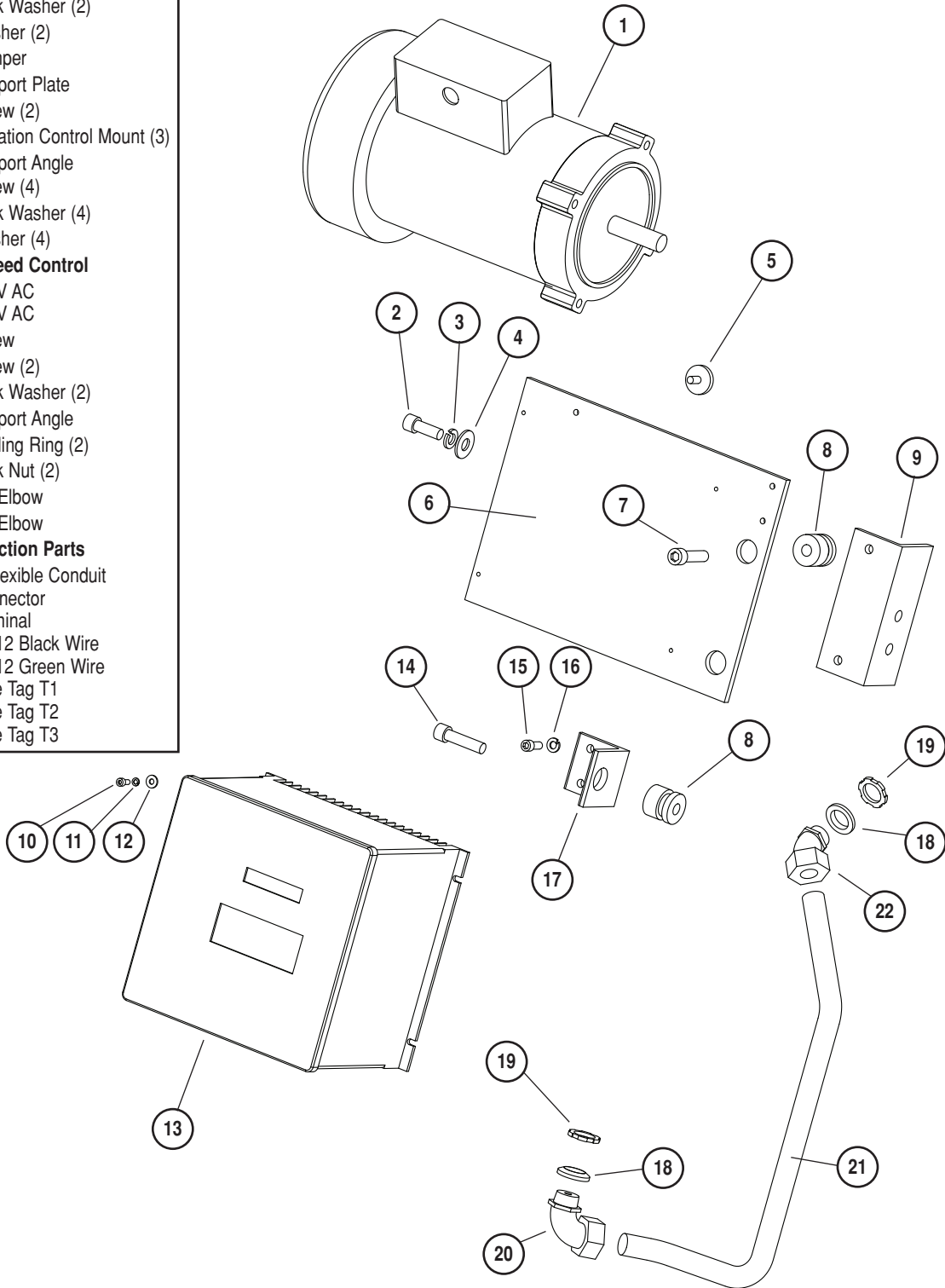


3hp Motor/Control Assembly

For Models:
64902, 64903

Index Key

No.	Part #	Description
1	98136	3hp Motor
2	95476	Screw (2)
3	97546	Lock Washer (2)
4	95043	Washer (2)
5	64920	Bumper
6	64926	Support Plate
7	97034	Screw (2)
8	64925	Vibration Control Mount (3)
9	64927	Support Angle
10	95178	Screw (4)
11	01211	Lock Washer (4)
12	97546	Washer (4)
13	Variable Speed Control	
	98137	460V AC
	98138	230V AC
14	97034	Screw
15	95536	Screw (2)
16	95167	Lock Washer (2)
17	64924	Support Angle
18	98751	Sealing Ring (2)
19	98746	Lock Nut (2)
20	98735	90° Elbow
21	98730	45° Elbow
22	Wire Connection Parts	
	98403	2' Flexible Conduit
	98616	Connector
	98612	Terminal
	98409	9' #12 Black Wire
	98411	3' #12 Green Wire
	98434	Wire Tag T1
	98435	Wire Tag T2
	98436	Wire Tag T3

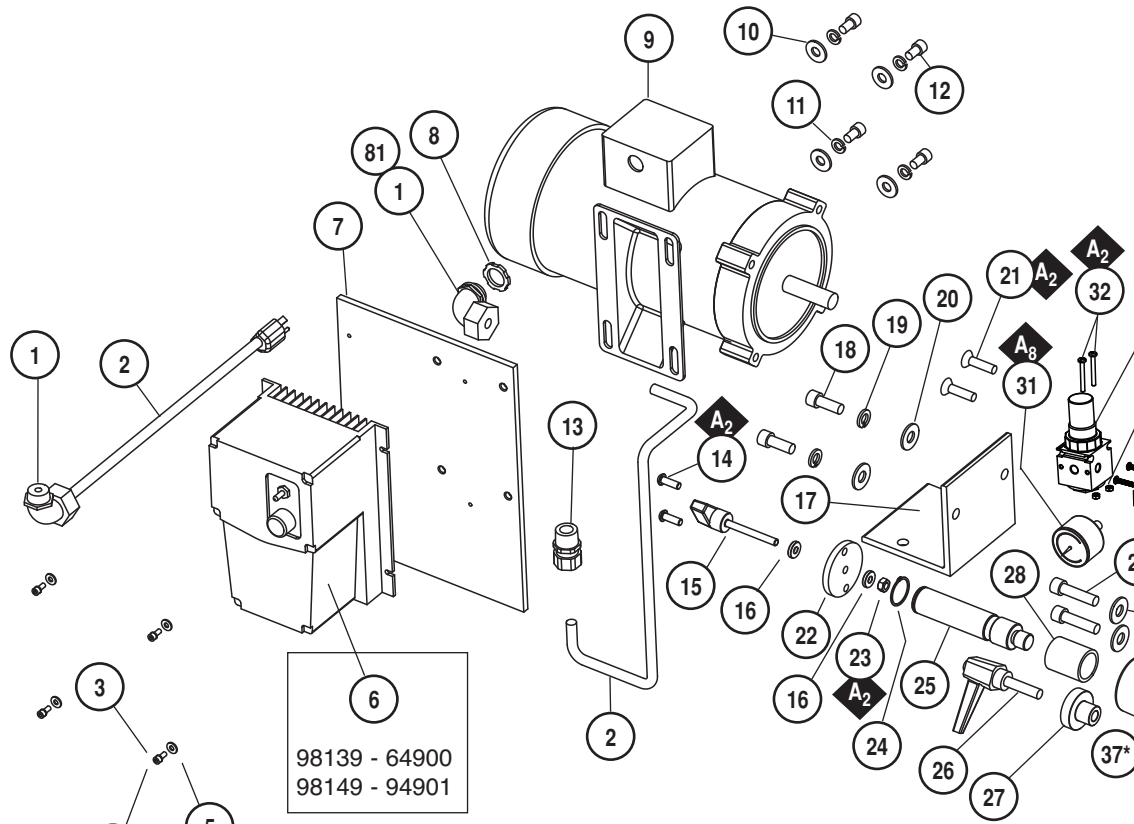


For Models:
64900, 64901, 64902,
64903, 64904, 64905

Versatility Grinder

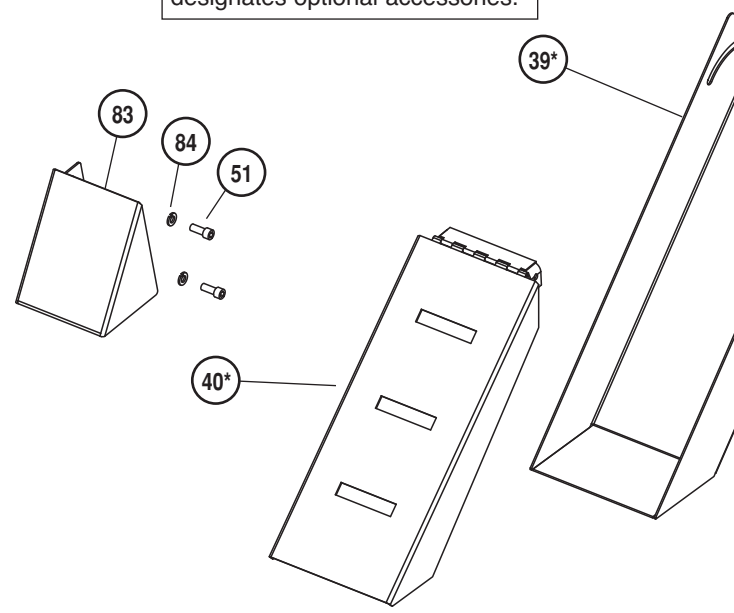
Index Key

No.	Part #	Description
1	98709	90° Elbow (2)
2	98418	Cord
3	95178	Screw (4)
4	01211	Lock Washer (4)
5	97546	Washer (4)
6	Chart	Variable Speed Control
7	64942	Support Plate
8	98746	Lock Nut
9	98020	Electric Motor - 64900
	98022	Electric Motor - 64901
	98046	Electric Motor - 64904
	98048	Electric Motor - 64905
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	97034	Screw (6)
30	64936	Restricted Fitting
31	95696	Pressure Gauge
32	95642	Screw (2)
33	97894-C	Regulator
34	95641	Nut (2)
35	96806	Screw (2)
36	65142	Adapter
37*	64961	Vacuum Tray Knob
38	95354	Bolts (2)
39*	64959	Bottom Vac Tray
40*	64960	Top Vac Tray
41	64940	Housing
42	64933	Slide Valve
43	64937	Air Inlet
44	64948	Idler Shaft Support (2)
45	95697	Snap Ring (2)
46	11813	Bearing (2)
47	64950	Idler Wheel
48	95016	Set Screw
49	64944	Idler Wheel Base
50	64949	Idler Wheel Shaft
51	95536	Screw (10)
52	64946	Guide Rod
53	97812	Rod Seal (2)
54	95334	Hex Nut
55	65217	Guide Rod Bushing (2)
56	64947	Air Cylinder & Nut
57	64943	Idler Cylinder Mount
58	97889	Breather Vent
59	97816	Seal
60	64955	Angular Stop Plate
61	97217	Hex Nut (2)
62	95624	Set Screw
63	64938	1/4" Tubing (7")
64	97828	Right Angle Fitting
65	64951	Pivot Plate
66	65557	Drive Wheel
67	95202	Set Screw
68	97535	Pivot Plate Bushing
69	97311	Pivot Plate Washer
70	97236	Pivot Plate Nut
71	97558	Nut
72	64935	Adapter
73	65123	Adapter Assembly
74	67212	Contact Arm Assembly
75	97773	Clamping Knob
76	64855	Tension Roll Assembly (4)
77	64958	Housing Cover
78	64941	Pivot Plate Post (2)
79	64923	Vacuum Hose Adapter
80	64945	Tension Roll Cover
81	97760	Turn Latch (3)
82	98751	Sealing Ring
83	64922	Slack Guard
84	95167	1/4" Lock Washer (2)
85*	95409	Bolt (4)
86*	97546	Washer (4)
87*	95294	Hex Nut (4)
88	97086	Screw (2)

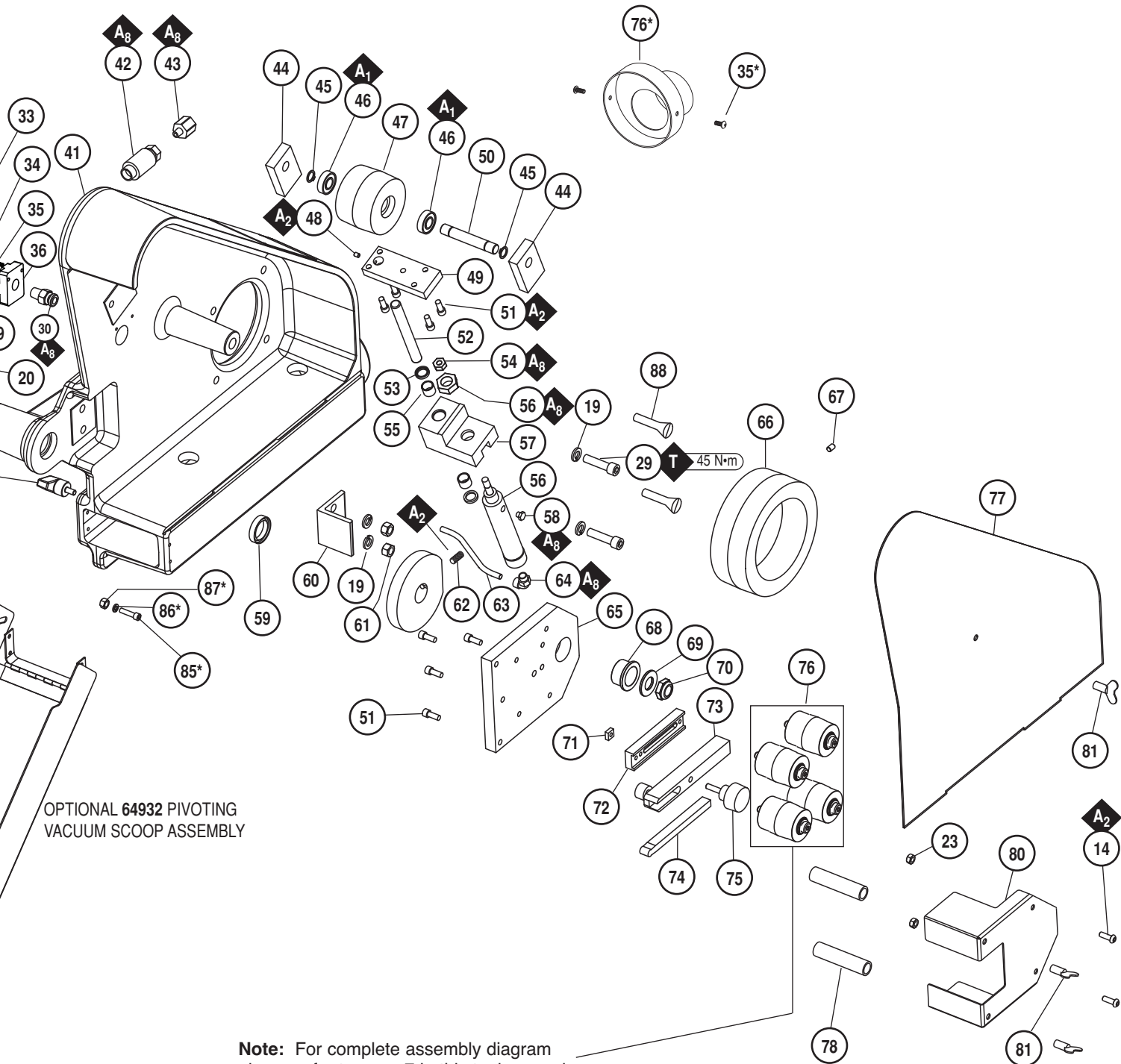


98139 - 64900
 98149 - 94901

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



Complete Assembly

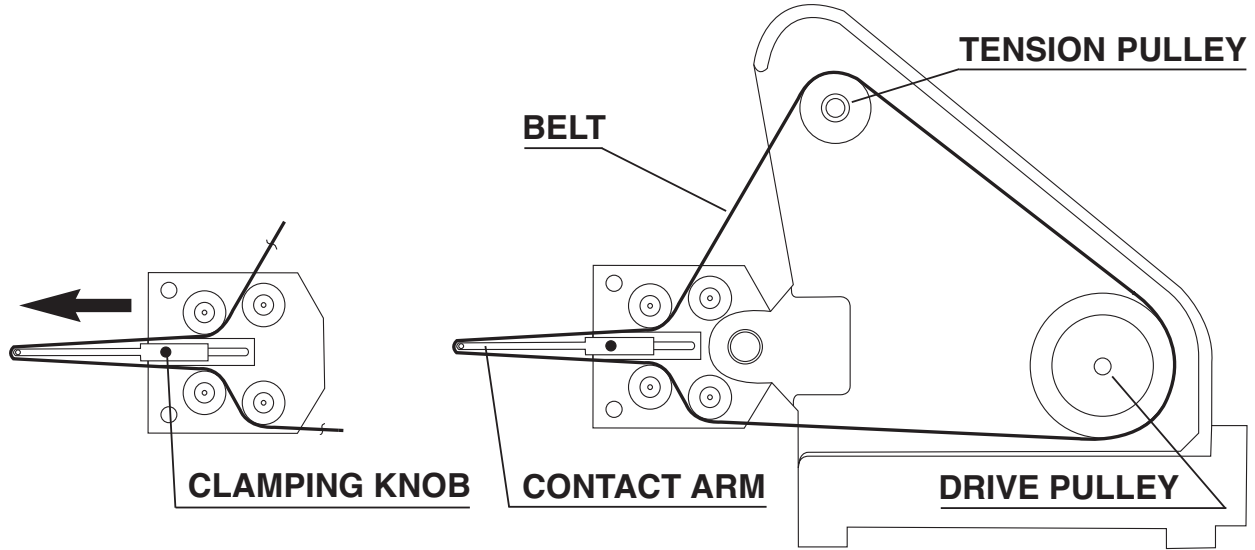


OPTIONAL 64932 PIVOTING
VACUUM SCOOP ASSEMBLY

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.

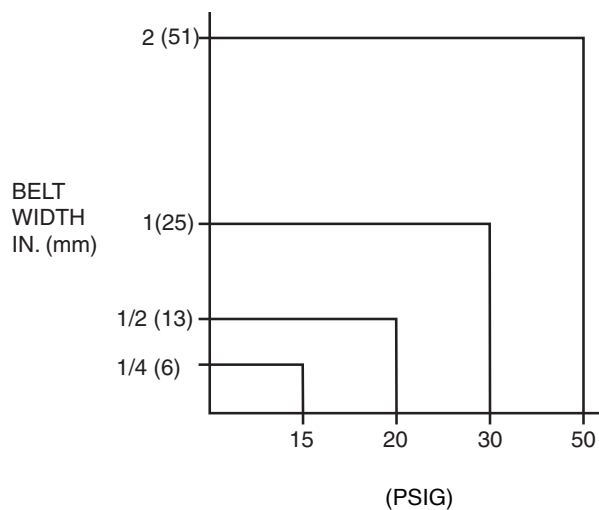
Abrasive Belt Installation



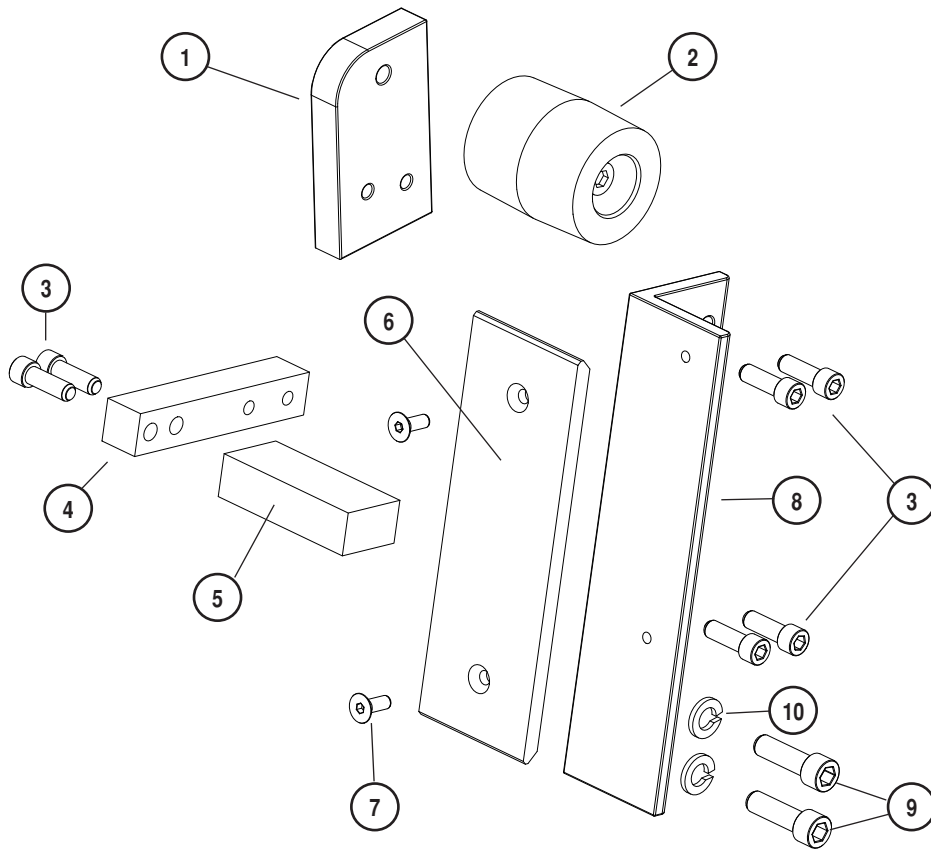
Abrasive Belt Installation Instructions

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

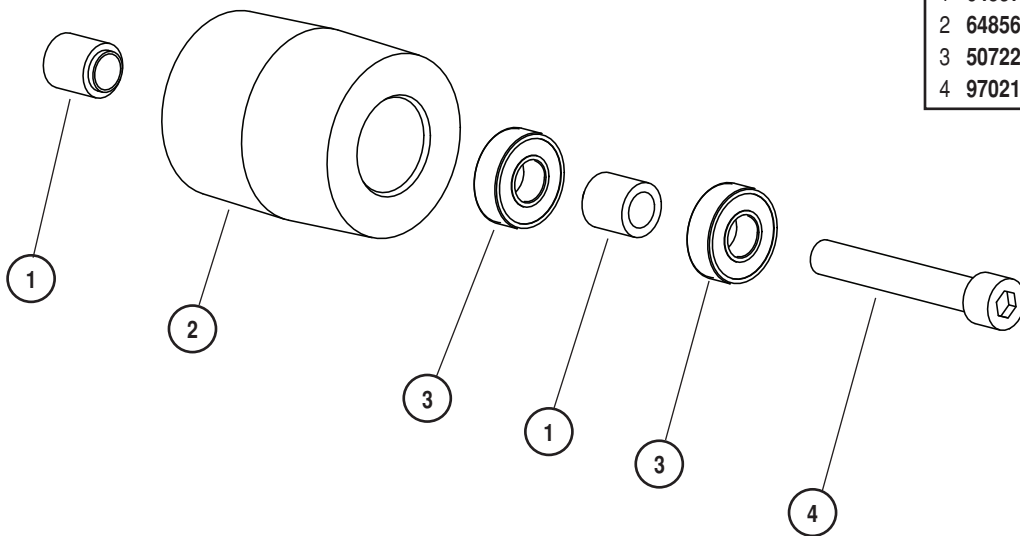


64962 Platen/Work Rest Assembly



Index Key		
No.	Part #	Description
1	64965	Platen Tension Roll Base
2	64855	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)

64855 Tension Roll Assembly



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

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.

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.

Machine Specifications

Model Number	hp (W)	Electrical Specifications	SFPM (SMPM)	Weight Pound (kg)	Width Inch (mm)	Length Inch (mm)	Height Inch (mm)
64900	1 (744)	115V 1ph 50/60	600-4000 (183-1219)	120 (55)	17 (432)	33 (838)	22 (559)
64901	1 (744)	230V 1ph 50/60	600-4000 (183-1219)	120 (55)	17 (432)	33 (838)	22 (559)
64902	3 (2232)	230V 3ph 50/60	2000-8000 (510-2440)	120 (55)	17 (432)	33 (838)	22 (559)
64903	3 (2232)	460V 3ph 50/60	2000-8000 (510-2440)	120 (55)	17 (432)	33 (838)	22 (559)
64904	1.5 (1116)	115V 1ph 50/60	5400 (1647)	120 (55)	17 (432)	33 (838)	22 (559)
64905	1.5 (1116)	230V 1ph 50/60	5400 (1647)	120 (55)	17 (432)	33 (838)	22 (559)

Abrasive Belts

Grit	Material	1/4" x 72" (6 mm 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

American National Standards Institute (ANSI)

www.ansi.org

Compressed Air & Gas Institute (CAGI)

www.cagi.org

European Committee for Standardization (PNEUROPE)

www.pneurop.org

International Organization of Standards (ISO)

www.iso.org

U.S. Government Publishing Office (GPO)

www.gpo.gov

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