

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



! 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 Practice safety requirements. Work alert, have proper attire, and do not operate tools under the influence of alcohol or drugs.	
	! WARNING Eye protection must be worn at all times, eye protection to conform to ANSI Z87.1.	! WARNING Ear protection to be worn when exposure to sound, exceeds the limits of applicable Federal, State or local statutes, ordinances and/or regulations.	
	! WARNING Respiratory protection to be used when exposed to contaminants that exceed the applicable threshold limit values required by law.	! WARNING Electric shock hazard. Avoid bodily contact with grounded objects, bodies of water. Do not damage cord set.	

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.
8. **Use safety glasses.** Also use face-shield or dust mask if operation area is dusty.

(continued on next page)

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.

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.

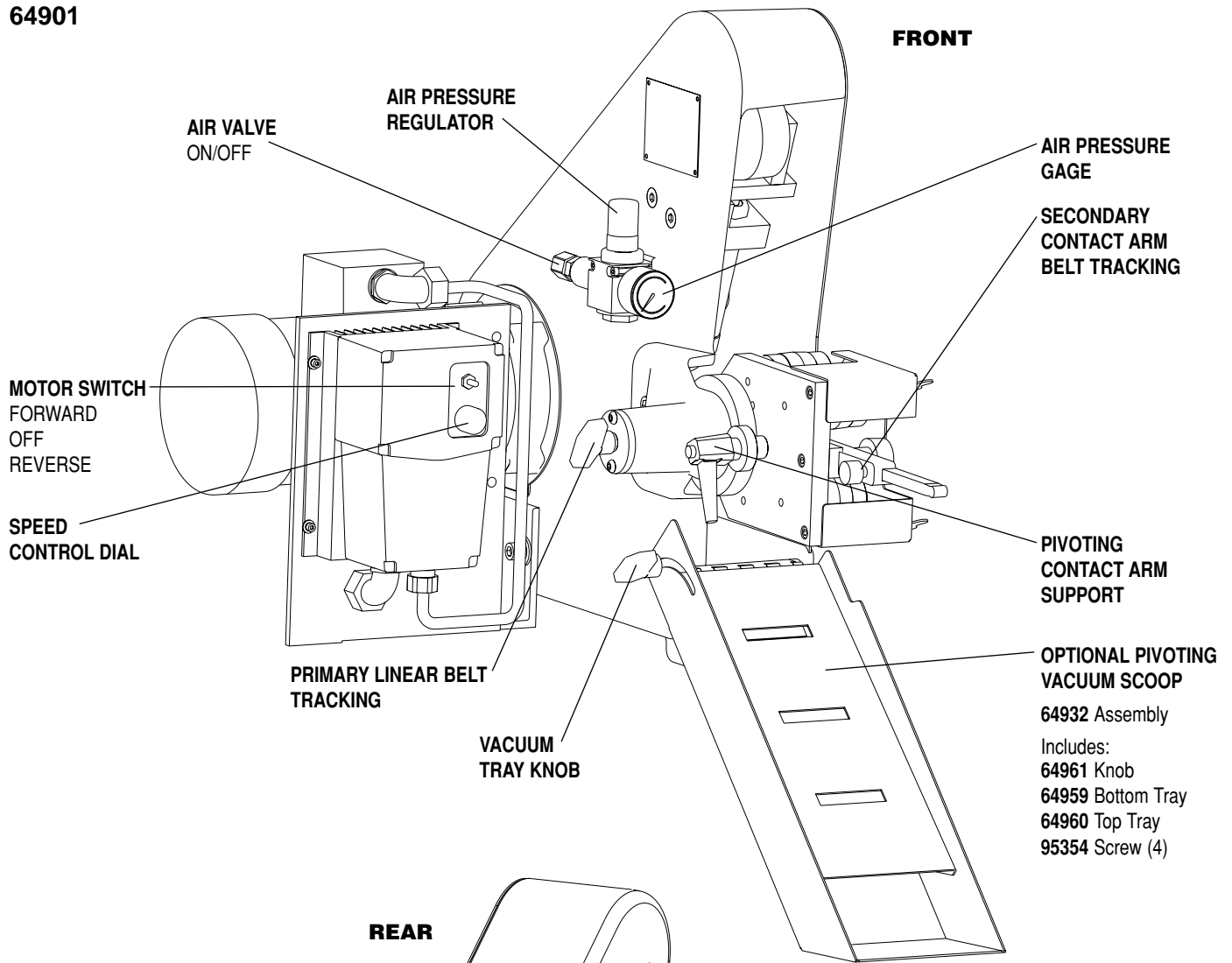
One Year Warranty

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.

**For Models:
64900
64901**

Versatility Grinder Controls/Features

FRONT



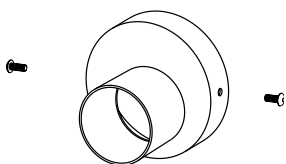
REAR

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.

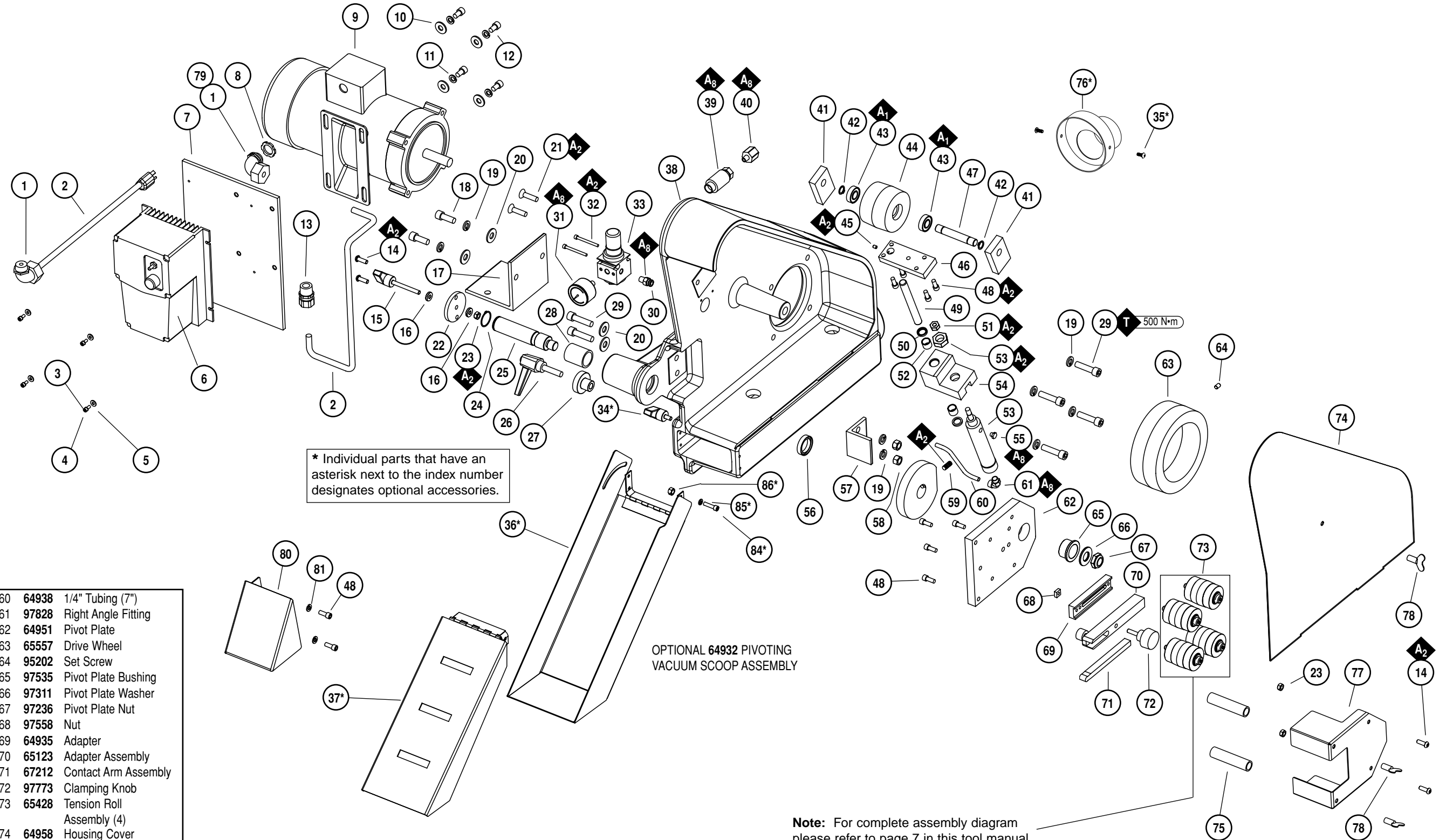
**BENCH MOUNT BRACKET
(2) 13/32" Thru Holes, 3" Spacing**

For Models:
64900
64901

Versatility Grinder Complete Assembly

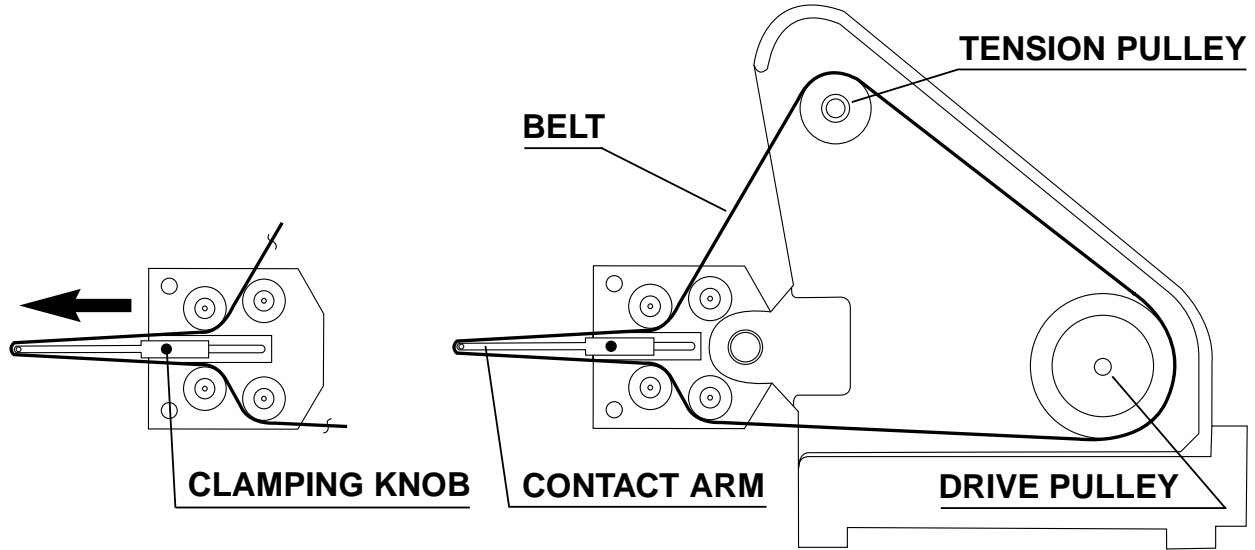
Index Key

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	98114	Variable Speed Control
7	64942	Support Plate
8	98746	Lock Nut
9	98020	Electric Motor - 64900
	98022	Electric Motor - 64901
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	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 Assembly (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)



KEY	
A	Adhesive: A ₁ = Loctite #609 A ₂ = Loctite #271 A ₈ = Loctite #567
T	Torque: N·m x 8.85 = In. - lbs.

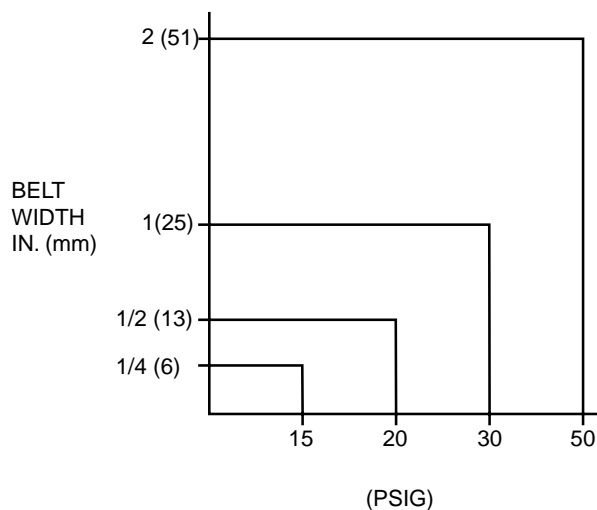
Abrasive Belt Installation



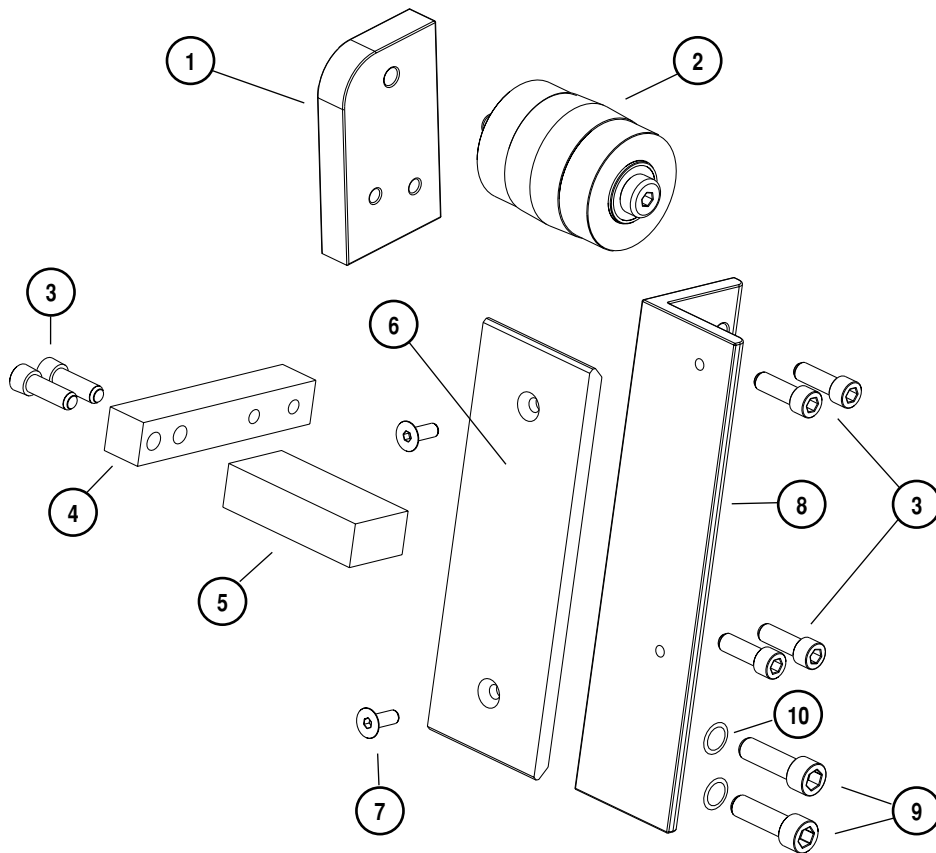
Abrasive Belt Installation Instructions

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



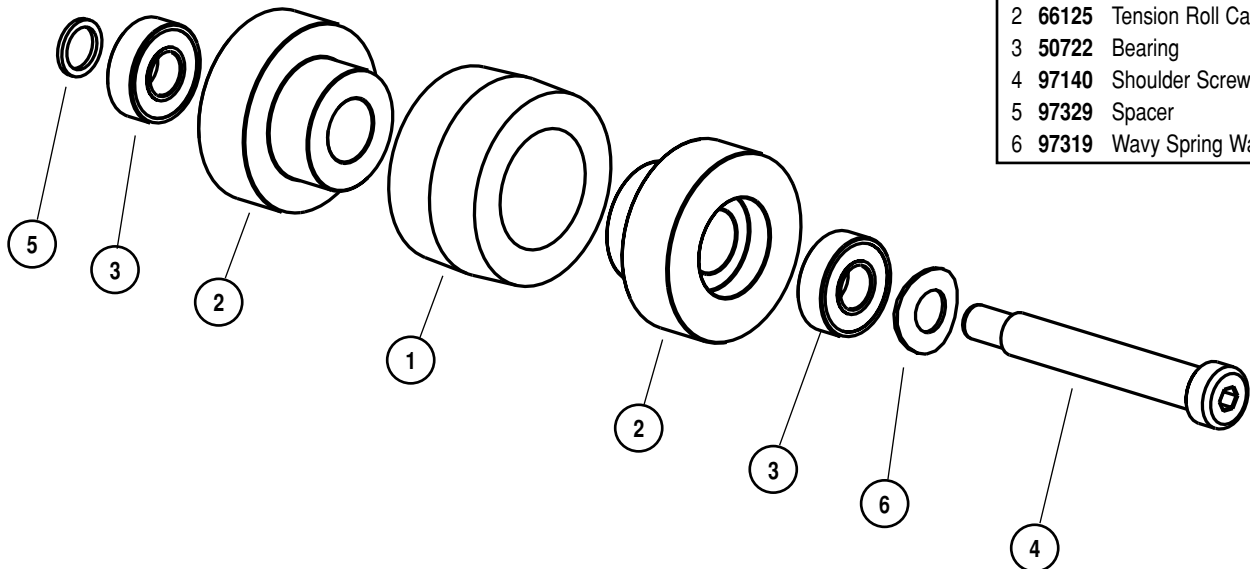
64962 Platen/Work Rest Assembly



Index Key

No.	Part #	Description
1	64965	Platen Tension Roll Base
2	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

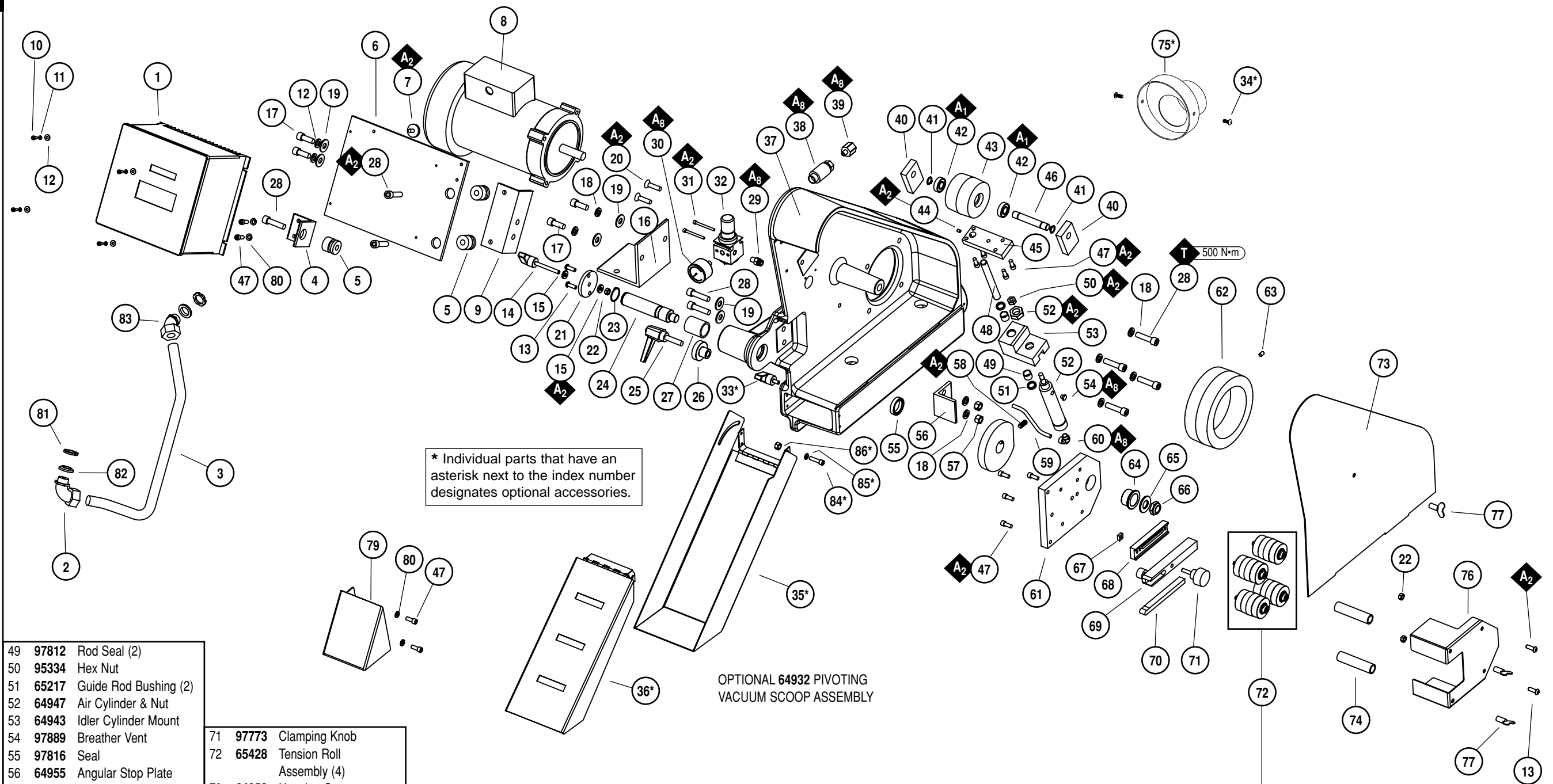
No.	Part #	Description
1	66134	Tension Roll Center
2	66125	Tension Roll Caps (2)
3	50722	Bearing
4	97140	Shoulder Screw
5	97329	Spacer
6	97319	Wavy Spring Washer

For Models:
64902
64903

Versatility Grinder Complete Assembly

Index Key

No.	Part #	Description
1	Variable Speed Control	
	98137	460V AC
	98138	230V AC
2	98735	90° Elbow
3	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
4	64924	Support Angle
5	64925	Vibration Control Mount
6	64926	Support Plate
7	64920	Bumper
8	98136	3 Hp Motor
9	64927	Support Angle
10	95178	Screw (4)
11	01211	Lock Washer (4)
12	97546	Washer (4)
13	97553	Bolt (4)
14	95314	Tracking Knob
15	95417	Washer (2)
16	64934	Bench Mount Bracket
17	95476	Screw (6)
18	95044	Lock Washer (10)
19	95043	Washer (6)
20	97545	Screws (2)
21	64957	Tracking Knob Support
22	95186	Hex Nut (3)
23	97441	Snap Ring
24	64954	Tracking Shaft
25	97741	Locking Knob
26	64952	Locking Hub
27	64956	Bronze Bushing
28	97034	Screw (9)
29	64936	Restricted Fitting
30	95696	Pressure Gauge
31	97026	Screw (2)
32	97894-C	Regulator
33*	64961	Vacuum Tray Knob
34	95354	Bolts (2)
35*	64959	Bottom Vac Tray
36*	64960	Top Vac Tray
37	64940	Housing
38	64933	Slide Valve
39	64937	Air Inlet
40	64948	Idler Shaft Support (2)
41	95697	Snap Ring (2)
42	11813	Bearing
43	64950	Idler Wheel
44	95016	Set Screw
45	64944	Idler Wheel Base
46	64949	Idler Wheel Shaft
47	95536	Screw (10)
48	64946	Guide Rod
49	97812	Rod Seal (2)
50	95334	Hex Nut
51	65217	Guide Rod Bushing (2)
52	64947	Air Cylinder & Nut
53	64943	Idler Cylinder Mount
54	97889	Breather Vent
55	97816	Seal
56	64955	Angular Stop Plate
57	97217	Hex Nut (2)
58	95624	Set Screw
59	64938	1/4" Tubing (7")
60	97828	Right Angle Fitting
61	64951	Pivot Plate
62	65557	Drive Wheel
63	95202	Set Screw
64	97536	Pivot Plate Bushing
65	97311	Pivot Plate Washer
66	97235	Pivot Plate Nut
67	97558	Nut
68	64935	Adapter
69	65123	Adapter Assembly
70	67212	Contact Arm Assembly
71	97773	Clamping Knob
72	65428	Tension Roll Assembly (4)
73	64958	Housing Cover
74	64941	Pivot Plate Post (2)
75	64923	Vacuum Hose Adapter
76	64945	Tension Roll Cover
77	97760	Turn Latch (3)
78	98751	Sealing Ring
79	64922	Slack Guard
80	95167	1/4" Lock Washer (4)
81	98746	Lock Nut (2)
82	98751	Sealing Ring (2)
83	98730	45° Elbow
84*	95409	Bolt (4)
85*	97546	Washer (4)
86*	95294	Hex Nut (2)



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

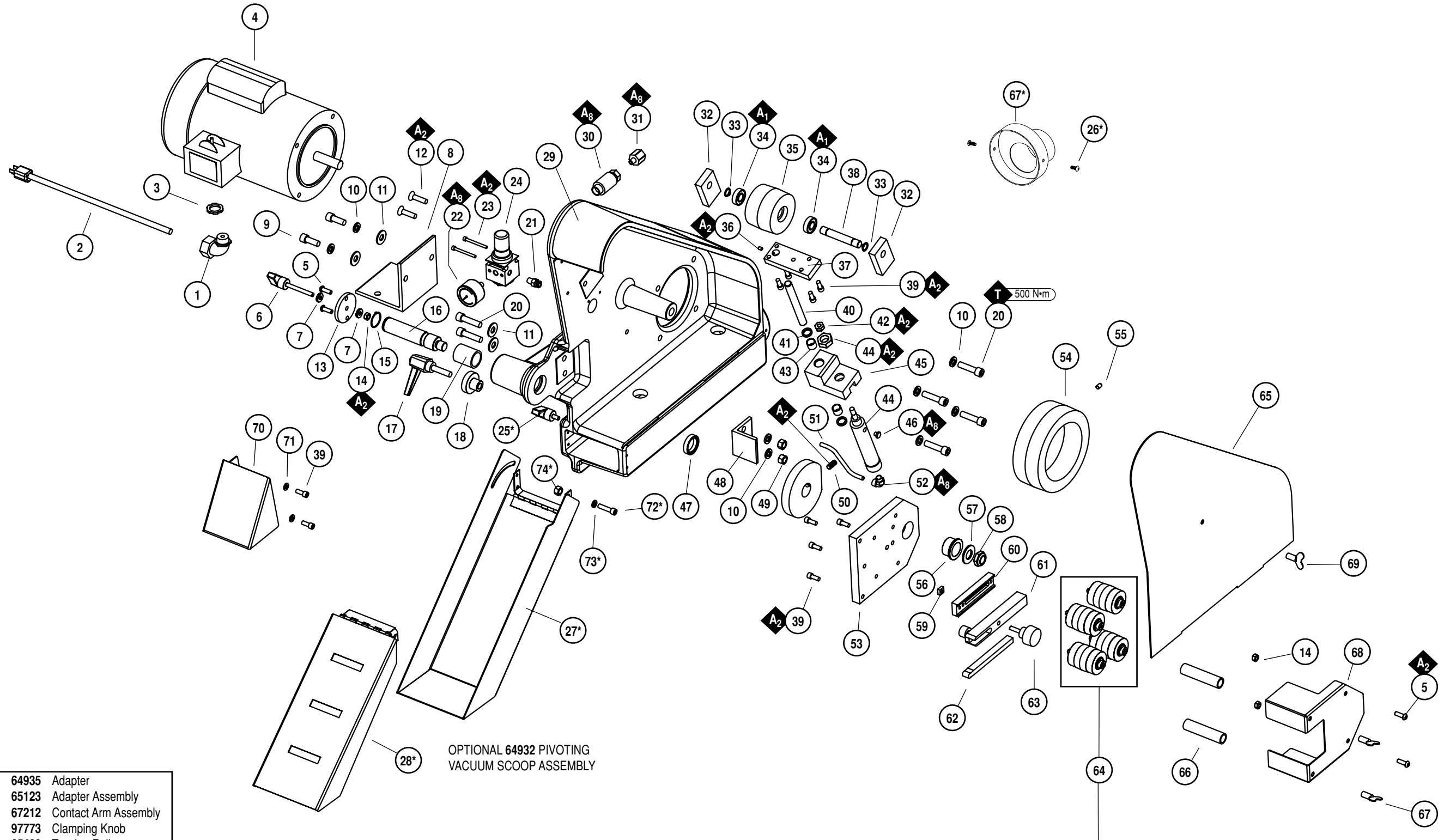
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T	Torque: N·m x 8.85 = In. - lbs.

For Models:
64904
64905

Versatility Grinder Complete Assembly

Index Key

No.	Part #	Description
1	98709	90° Elbow
2	98418	Cord
3	98746	Lock Nut
4	98046	Electric Motor - 64904
	98048	Electric Motor - 64905
5	97553	Bolt (4)
6	95314	Tracking Knob
7	95417	Washer (2)
8	64934	Bench Mount Bracket
9	95476	Screw (2)
10	95044	Lock Washer (8)
11	95043	Washer (4)
12	97545	Screws (2)
13	64957	Tracking Knob Support
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24	97894-C	Regulator
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27*	64959	Bottom Vac Tray
28*	64960	Top Vac Tray
29	64940	Housing
30	64933	Slide Valve
31	64937	Air Inlet
32	64948	Idler Shaft Support (2)
33	95697	Snap Ring (2)
34	11813	Bearing
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71	95167	1/4" Lock Washer (2)
72*	95409	Bolt (4)
73*	97546	Washer (4)
74*	95294	Hex Nut (4)



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

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.

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" (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

- American National Safety Institute – ANSI**
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Forth Floor
New York, NY 10036
Tel: 1 (212) 642-4900
Fax: 1 (212) 398-0023
- Government Printing Office – GPO**
Superintendent of Documents
Attn. New Orders
P.O. Box 371954
Pittsburgh, PA 15250-7954
Tel: 1 (202) 512-1803
- European Committee for Standardization**
Rue de Stassart 36
B - 1050 Brussels, Belgium



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