



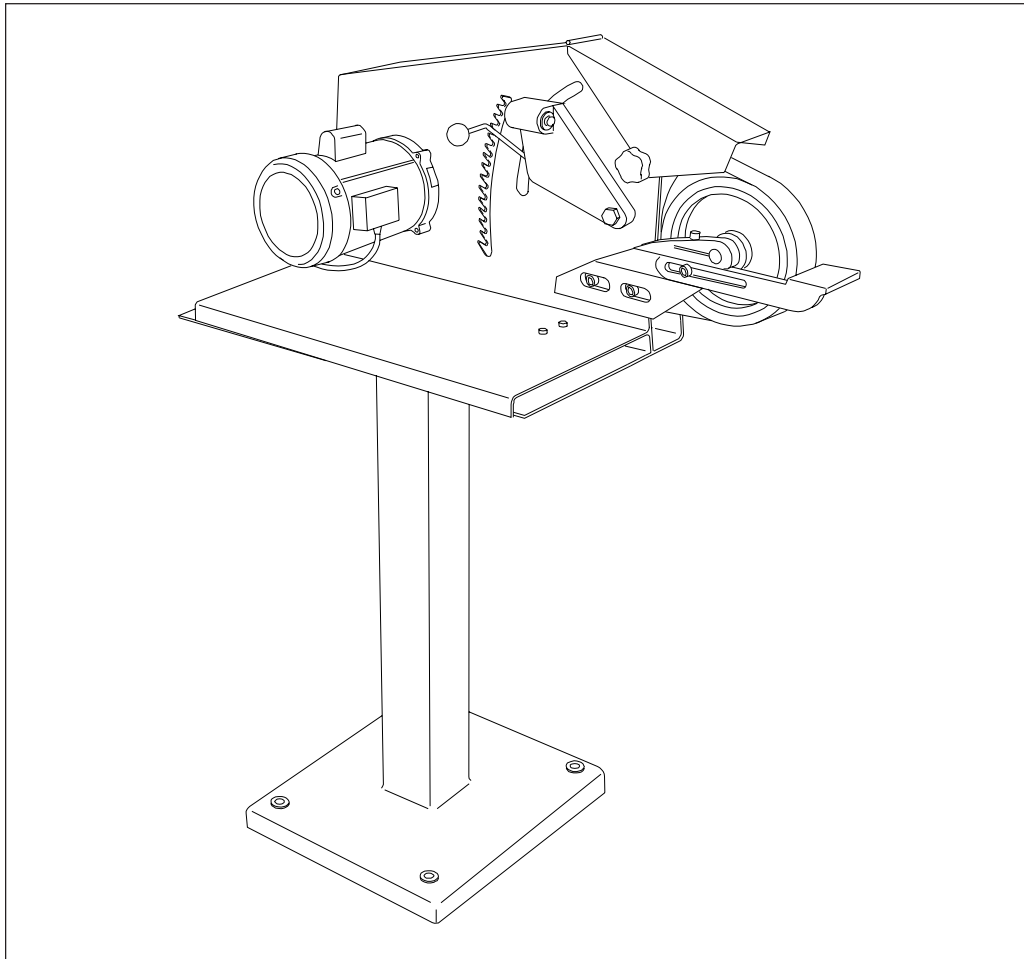
This Manual is Bookmarked

WMH TOOL GROUP

Operating Instructions — Parts Manual

Square Wheel Belt Grinder

Models: 4103, 4106, and 4126AC



WMH TOOL GROUP
2420 Vantage Drive
Elgin, Illinois 60123
Ph.: 800-274-6848
www.wmhtoolgroup.com

Part No. 5507796
Revision C2 09/04
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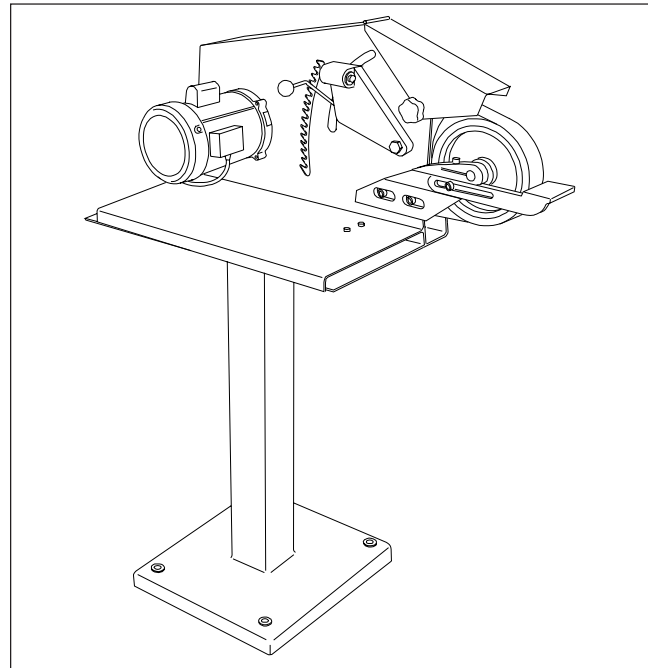
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General Specifications

The Wilton Square Wheel Belt Grinder, Models 4103, 4106 and 4126AC, are designed for grinding, deburring, chamfering, and internal/external grinding of small and large parts. The Square Wheel Belt Grinder can be used to polish or buff finished parts and grind small internal radii using available accessories. Accessory changeover is quick and easy. Belt tension and tracking are easily adjustable.

The Square Wheel Belt Grinder is available in either single speed (Models 4103 and 4106) or variable speed model (Model 4126AC). The variable speed model is controlled by an inverter that provides belt speeds ranging from 0 to 6000 SFPM.



Specifications	Model 4103	Model 4106	Model 4126AC
Belt Width & Length	2 x 72 Inches	2 x 72 Inches	2 x 72 inches
Belt Speed	4600 SFPM	4600 SFPM	0 - 6000 SFPM
Motor	1 HP, Single Phase, 1750 rpm	2 HP, Three Phase, 1750 rpm	1 HP, 1,750 rpm
Contact Wheel Diameters	1-1/2, 3, & 8 inches	1-1/2, 3, & 8 inches	1-1/2, 3, & 8 inches
Weight	115-125 pounds	120 pounds	120 pounds



WARNING

- Misuse of this machine can cause serious injury.
- For safety, machine must be set up, used and serviced properly.
- Read, understand and follow instructions in the operator's and parts manual which was shipped with your machine.

When setting up machine:

- Always avoid using machine in damp or poorly lighted work areas.
- Always be sure machine is securely anchored to the floor.
- Always keep machine guards in place.
- Always put start switch in OFF position before plugging in machine.

When using machine:

- Never operate with machine guards missing.
- Always wear safety glasses with side shields (See ANSI Z87.1)
- Never wear loose clothing or jewelry.
- Never overreach — you may slip and fall into the machine.

- Never leave machine running while you are away from it.

- Always shut off the machine when not in use.

When servicing machine:

- Always unplug machine from electrical power while servicing.
- Always follow instructions in operators and parts manual when changing accessory tools or parts.
- Never modify the machine without consulting Wilton Corporation.

You — the stationary power tool user— hold the key to safety.

Read and follow these simple rules for best results and full benefits from your machine. Used properly, Wilton's machinery is among the best in design and safety. However, any machine used improperly can be rendered inefficient and unsafe. It is absolutely mandatory that those who use our products be properly trained in how to use them correctly. They should read and understand the Operators and Parts Manual as well as all labels affixed to the machine. Failure in following all of these warnings can cause serious injuries.

Machinery general safety warnings

1. Always wear protective eye wear when operating machinery. Eye wear shall be impact resistant, protective safety glasses with side shields which comply with ANSI Z87.1 specifications. Use of eye wear which does not comply with ANSI Z87.1 specifications could result in severe injury from breakage of eye protection.
2. Wear proper apparel. No loose clothing or jewelry which can get caught in moving parts. Rubber soled footwear is recommended for best footing.
3. Do not overreach. Failure to maintain proper working position can cause you to fall into the machine or cause your clothing to get caught pulling you into the machine.
4. Keep guards in place and in proper working order. Do not operate the machine with guards removed.
5. Avoid dangerous working environments. Do not use stationary machine tools in wet or damp locations. Keep work areas clean and well lit.
6. Avoid accidental starts by being sure the start switch is OFF before plugging in the machine.
7. Never leave the machine running while unattended. Machine shall be shut off whenever it is not in operation.
8. Disconnect electrical power before servicing. Whenever changing accessories or general maintenance is done on the machine, electrical power to the machine must be disconnected before work is done.
9. Maintain all machine tools with care. Follow all maintenance instructions for lubricating and the changing of accessories. No attempt shall be made to modify or have makeshift repairs done to the machine. This not only voids the warranty but also renders the machine unsafe.
10. Machinery must be anchored to the floor.
11. Secure work. Use clamps or a vise to hold work, when practical. It is safer than using your hands and it frees both hands to operate the machine.
12. Never brush away chips while the machine is in operation.
13. Keep work area clean. Cluttered areas invite accidents.
14. Remove adjusting keys and wrenches before turning machine on.
15. Use the right tool. Don't force a tool or attachment to do a job it was not designed for.
16. Use only recommended accessories and follow manufacturers instructions pertaining to them.

17. Keep hands in sight and clear of all moving parts and cutting surfaces.
18. All visitors should be kept at a safe distance from the work area. Make workshop completely

- safe by using padlocks, master switches, or by removing starter keys.
19. Know the tool you are using—its application, limitations, and potential hazards.

General Electrical Cautions

This machine should be grounded in accordance with the National Electrical Code and local codes and ordinances. This work should be done by a qualified electrician. The machine should be grounded to protect the user from electrical shock.

Wire sizes

Caution: for circuits which are far away from the electrical service box, the wire size must be increased in order to deliver ample voltage to the motor. To minimize power losses and to prevent motor overheating and burnout, the use of wire sizes for branch circuits or electrical extension cords according to the following table is recommended:

Conductor Length	AWG (American wire gauge) Number	
	240 Volt Lines	120 Volt Lines
0 - 50 Feet	No. 14	No. 14
50 - 100 Feet	No. 14	No. 12
Over 100 Feet	No. 14	No. 8

Safety requirements for abrasive grinding machines

Abrasive grinding can be hazardous to operators and bystanders. Grinding sparks, chips and dust particles thrown off by the grinding disc can cause serious injury by contact or inhalation. To avoid such injuries you must comply with the following safety requirements:

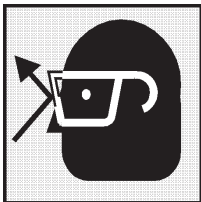
1. Always wear protective eyewear when operating machinery. Eye wear shall be impact resistant, protective safety glasses with side shields which comply with ANSI Z87.1. Use of eye wear which does not comply with ANSI Z87.1 specifications could result in severe injury from breakage of eye protection. See Figure A, below.
2. Wear leather safety gloves, arm guards, leather aprons and safety shoes.
3. A dust collection system is recommended, Operator shall also wear a dust mask at all times. See Figure B, below.
4. Additional precautions may be necessary for grinding materials which are flammable or have other hazardous properties. You should always consult the manufacturer of such materials for instructions on grinding and handling.
5. Do not force or jamb the workpiece into the grinding disc.
6. Before grinding, always allow the motor to come up to operating speed, then check the grinding disc for wobble, runout, or any unbalanced

condition. If the disc is not operating accurately and smoothly, immediately stop the motor and make repairs before attempting any grinding operations.

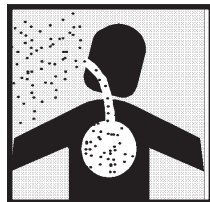
7. Abrasive discs must be stored in a controlled environment area. Relative humidity should be 35% to 50% and the temperature should be between 60 and 80 degrees Fahrenheit. Failure to do so could cause premature disc failure.
8. Examine the face of the grinding disc carefully. Excessive grinding which wears down to the backing material can tear the disc. Never use a disc which shows backing, nicks or cuts on the surface or edge or damage due to creasing or poor handling.
9. When installing a new disc, be certain the disc is accurately centered on the drive wheel. Failure to do so could cause a serious unbalanced condition.
10. Always present the workpiece to the wheel while resting the workpiece firmly on the table. Failure to do so could result in damage to the workpiece or throwing of the workpiece off the wheel.
11. Safety shoes which comply with ANSI Z41.1 shall be worn. See Figure C.
12. Personal hearing protection such as ear plugs or ear muffs shall be used to protect against the effect of noise exposure. See Figure D:

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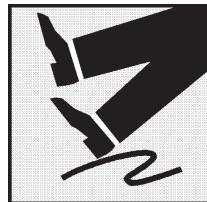
A



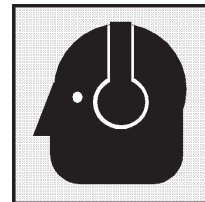
B



C



D



Introduction

This manual includes operating and maintenance instructions for the Wilton Model 4103, 4106 and 4126AC Square Wheel Belt Grinder. The manual also includes parts listings and illustrations of replaceable parts.

Refer to Figures 1 and 2 for key features of the Square Wheel Belt Grinder.

Setup and Operation

The Square Wheel Belt Grinder can be mounted on a work bench or an optional pedestal. The grinder should be secured to the work bench or pedestal using the four holes in the base of the grinder. (Refer to **Assembly of Pedestal** for machines that are to be pedestal-mounted.)

Installation of Work Rest

The work rest mounts on the left side of the head casting. Attach the work rest using the socket head cap screw provided with the machine.

The slot in the work rest has a lip against which the cap screw is tightened. Place the hole at the end of the slot over the cap screw. Then slide the rest inward until the work rest is in position in front of the contact wheel. Tighten the cap screw.

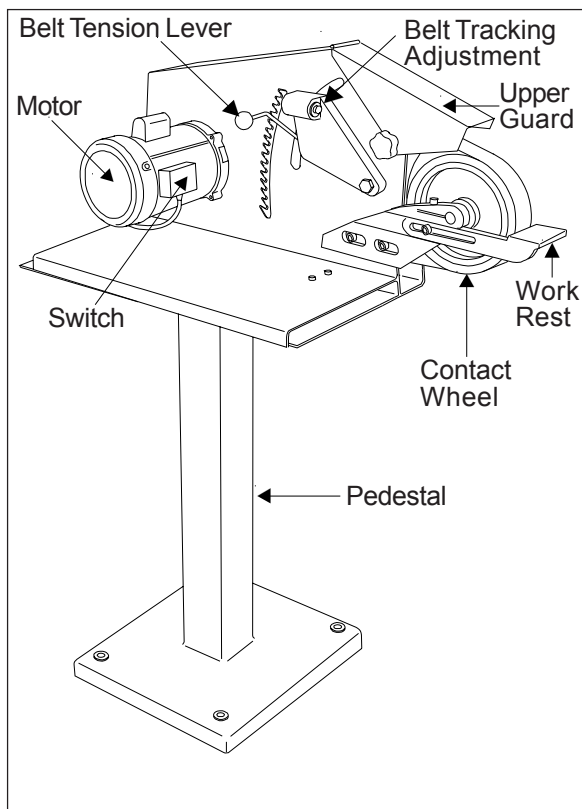


Figure 1: Square Wheel Grinder Features (single speed)

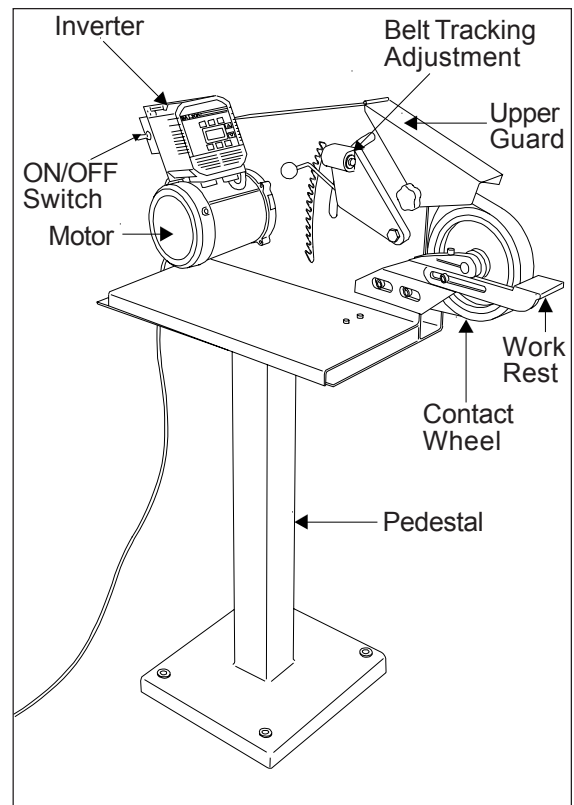


Figure 2: Square Wheel Grinder Features (variable speed)

Vacuum Connection

NOTE: A variety of vacuum system options are available. (Refer to **Accessories** section.)

The grinder uses a front mounted vacuum system. Refer to Figure 3. Install the vacuum system components as follows:

1. Slide the support bracket into the channel secured to belt grinder base. Install one knob in the belt grinder base to secure the support bracket.
NOTE: Refer to vacuum scoop exploded view, Figure 11 when installing channel.
2. Slide the ducted scoop onto the support bracket. Install remaining knob in the support bracket to secure the scoop.
3. Connect hose to exhaust duct and secure with a clamp.

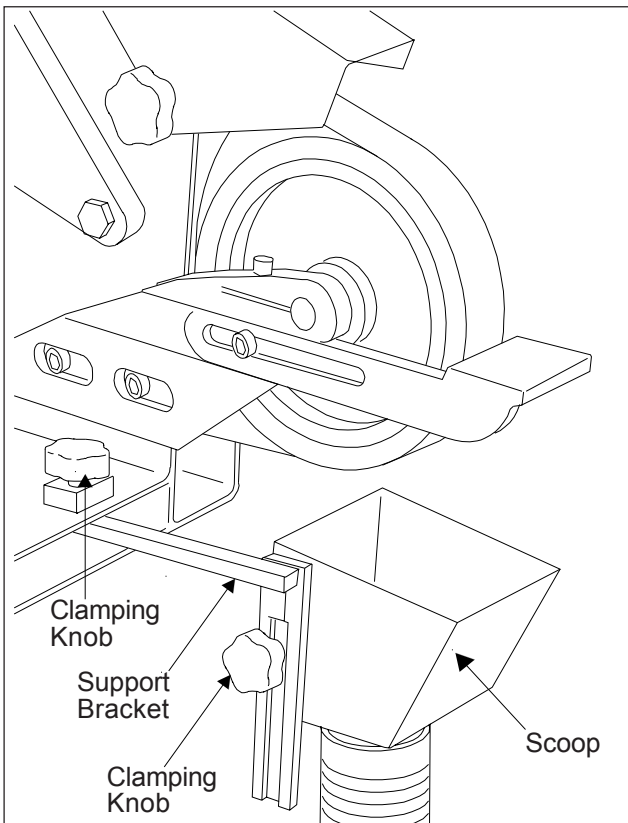


Figure 3: Vacuum Connection

Electrical Connection

Refer to the Wiring Diagram section for wiring information. Connection to electrical power should be made by a qualified electrician. Observe local electrical codes when connecting the machine.

Operating Controls

Model 4103/4106

The ON/OFF switch for the Model 4103/4106 grinder is located in a switch box mounted on the drive motor.

Model 4126AC

NOTE: Refer to Figure 4. Use only the inverter controls defined in the following procedures. The inverter is pre-programmed at the factory and requires no further programming. The controls for the Model 4126AC grinder are located on the inverter. The ON/OFF switch is located on the left side of the inverter. Start the grinder by setting the ON/OFF switch to ON.

Press the FWD RUN pushbutton on the inverter and set the speed using the up/down arrow keys (to the right of the speed display). Press the up arrow to increase speed; press the down arrow to reduce speed. The display on the inverter shows drive motor speed in revolutions per minute. Press the STOP button on the inverter to stop the grinder. Then set the ON/OFF switch to OFF.

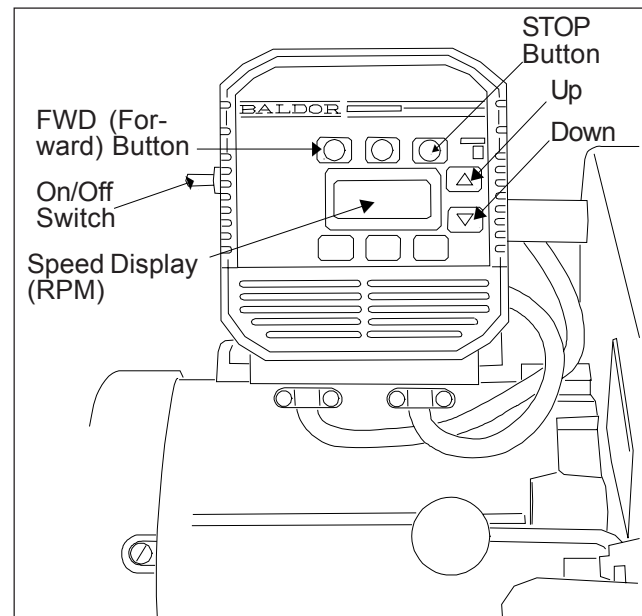
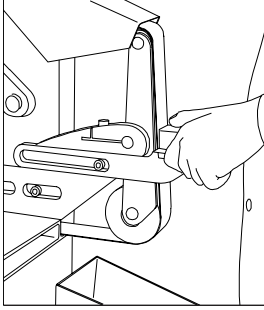
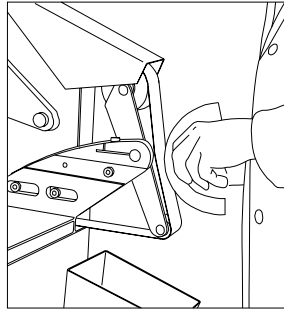


Figure 4: Operating Controls
(Model 4126AC)

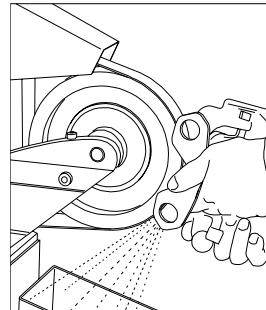
Typical Uses for the Square Wheel Belt Grinder



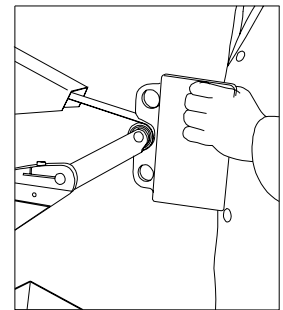
Flat or angular stock — Platen setting is the perfect angle for high speed, precision, flat and level grinding of tools, knives, plastics, and other materials. The platen allows working to very close tolerances. An adjustable work rest is standard on all models.



Shaping — For grinding and finishing cylindrical shapes. The yoke surface conforms to the shape of the surface to produce an even, smooth finish without the danger of scarring. Excellent for tool post applications.

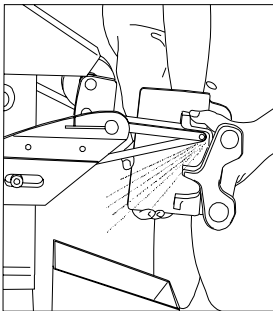


Roughing — Ser-rated contact wheel is used for removing heavy stock, cleaning up a weld or snagging a casting. This durable 8-inch diameter wheel is used extensively for hollow grinding and profiling knives and other culinary tools. It is standard equipment on all models.

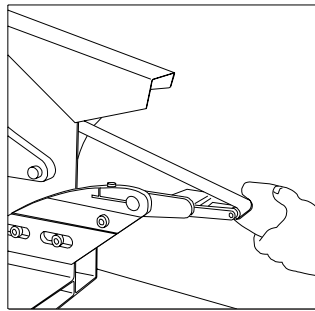


Contouring — Grind difficult, hard to reach areas with the 3-inch by 2-inch or 1-1/2 inch by 2-inch diameter contact wheels. Contours and shapes unique parts like propellers and metal furniture.

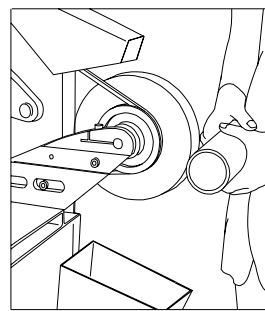
OPTIONAL FEATURES



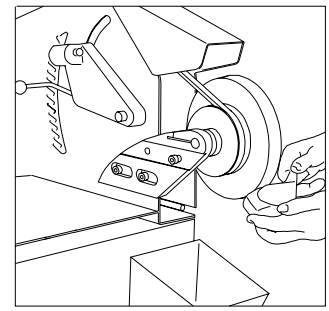
Internal contouring — The air-cushioned dead head is for use on very small radius grinding. When connected to a source of shop air (80-90 psi), the belt rides on a cushion of air to decrease head and belt wear. The dead head is easy to use, and adapts to any of the available radius tips.



Internal contouring with small wheel — This small wheel accessory is designed for hard to reach places. Includes 5/8-inch, 70 durometer contact wheel. Available contact wheels are 1/2-inch, 3/4-inch, and 1-inch.



Polishing — The buffing pad is perfect for satin finish or high gloss polishing. The fine, close stitched burring pads are ideal for metal and plastic



Finishing — The nylon reinforced, silicone carbide wheel is perfect for polishing and deburring. It applies a high luster finish on rough surfaces and is excellent for steel, iron, or aluminum.

Maintenance

Cleaning

Shutoff the machine before cleaning. Keep the exterior of the machine clean and free of chips. Use a brush for cleaning. Periodically empty grinding dust and particles from the dust collection system.

Lubrication

Lubrication of the grinder is not required. The drive motor and contact wheel are fitted with sealed bearings.

Replacement of Contact Wheel

WARNING: BE SURE TO SET ON/OFF SWITCH TO OFF TO AVOID PERSONAL INJURY.

1. Refer to Figure 5. Lower the tension lever to release belt tension.
2. Loosen upper guard knob and swing guard back for clearance.
3. Loosen the contact wheel shaft clamping screw on the head casting.
4. Remove the contact wheel assembly.
5. Remove retaining rings from wheel shaft.
6. Remove shaft and wheel bearings.
7. Install bearings in replacement contact wheel.
8. Install shaft and secure with retaining rings.
9. Install contact wheel shaft in head casting.
10. Tighten clamping screw.
11. Lift tension lever to set belt tension.
12. Lower and adjust position of upper guard. Tighten the upper guard knob.

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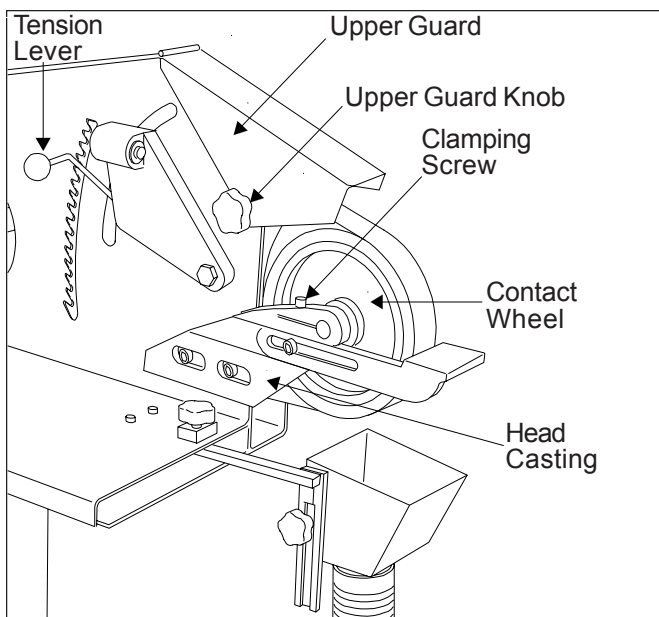


Figure 5: Replacement of Contact Wheel

Installation of Platen

WARNING: BE SURE TO SET ON/OFF SWITCH OFF TO AVOID PERSONAL INJURY.

1. Refer to Figure 6. Lower the tension lever to release belt tension.
2. Loosen upper guard knob and swing guard back for clearance.
3. Loosen the contact wheel shaft clamping screw on the head casting.
4. Remove contact wheel (see Replacement of Contact Wheel).
5. Install pivot shaft of platen in head casting. Position platen as desired.
 - A. For grinding flat or angular work pieces, position the platen with the platen surface facing outward.
 - B. For grinding of cylindrical work pieces, position the platen with the “yoke” side facing outward.
 - C. Set at desired angle.
6. Tighten clamping screw.
7. Lift tension lever to set belt tension.
8. Lower and adjust position of upper guard. Tighten the upper guard knob.

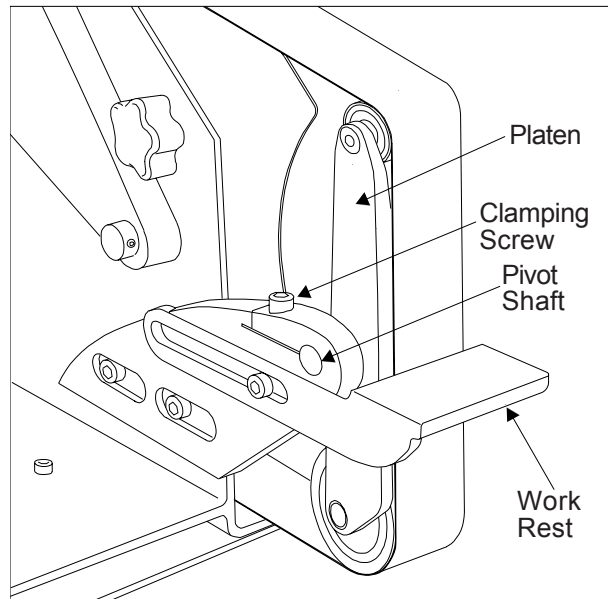


Figure 6: Installation of Platen

Replacement of Grinding Belt

WARNING: DO NOT OPERATE THE MACHINE WITH THE SIDE PANEL OPEN. DISCONNECT ELECTRICAL POWER TO THE MACHINE BEFORE PERFORMING ANY MAINTENANCE.

1. Refer to Figure 7. Lower the belt tension lever to release tension on the belt.
2. Loosen the knob on the left side of the machine and raise upper guard. Turn the knob on the side panel and lower the side panel.
3. If required, loosen work rest to provide clearance for belt removal.
4. Remove the belt from the drive wheel, idler wheel, and contact wheel. Install the replacement belt over the drive wheel, idler wheel, and contact wheel.
5. Raise the belt tension lever to tighten the belt against the wheels. Tighten the belt until it is just taut. A moderate tension will provide faster cutting, longer belt life, and better tracking. Do not over-tension the belt.
6. Check belt tracking by spinning the drive wheel by hand. Adjust tracking if required. (Refer to Checking Belt Tracking.)
2. Spin the drive wheel by hand and check tracking of the belt. If the belt tracks either right or left, adjustment is required.
3. Use an Allen wrench to change the alignment of the idler wheel. Turn the idler adjustment screw clockwise to cause the belt to track right. Turn the idler adjustment screw counterclockwise to cause the belt to track left.
4. Close side panel and secure by turning the knob on the panel. Lower the upper belt guard and secure with the knob on the left side of the grinder.
5. Connect electrical power and start the grinder. Check belt tracking (the belt should be centered on the contact wheel).
6. If required, adjust belt tracking to center the belt on the contact wheel. Turn the idler adjustment screw clockwise to move the belt to the right. Turn the idler adjustment screw counterclockwise to move the belt to the left.
7. If the belt does not track properly, increase belt tension. Repeat steps 1 through 6.

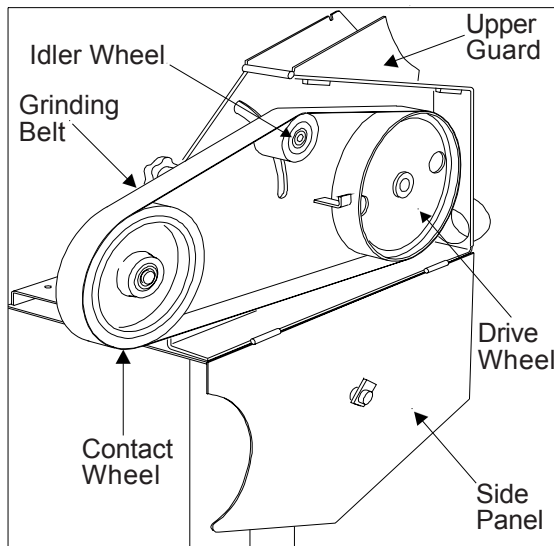


Figure 7: Replacement of Grinding Belt

Checking Belt Tracking

WARNING: DO NOT OPERATE THE MACHINE WITH THE SIDE PANEL OPEN. DISCONNECT ELECTRICAL POWER TO THE MACHINE BEFORE PERFORMING ANY MAINTENANCE.

1. Loosen the knob on the left side of the machine and raise upper guard. Turn the knob on the side panel and lower the side panel.

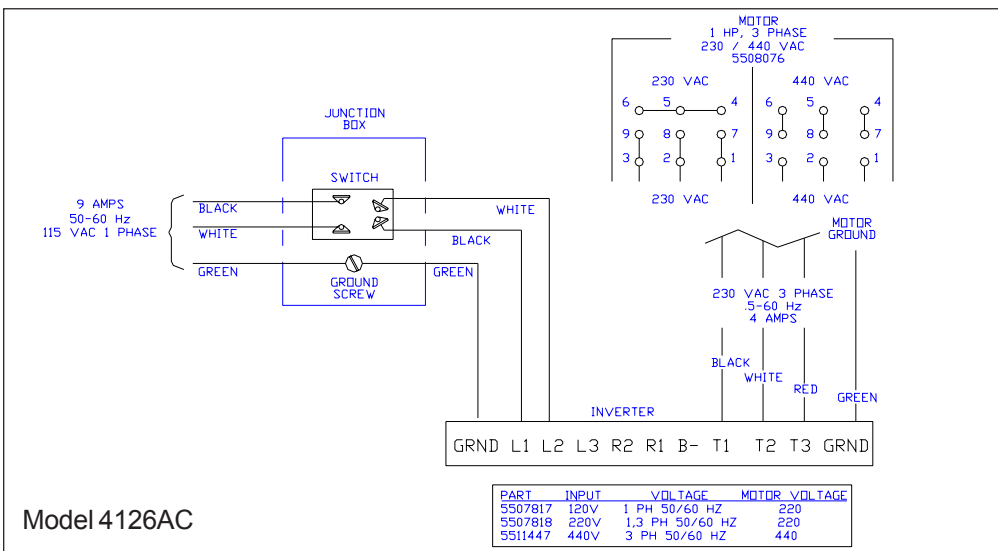
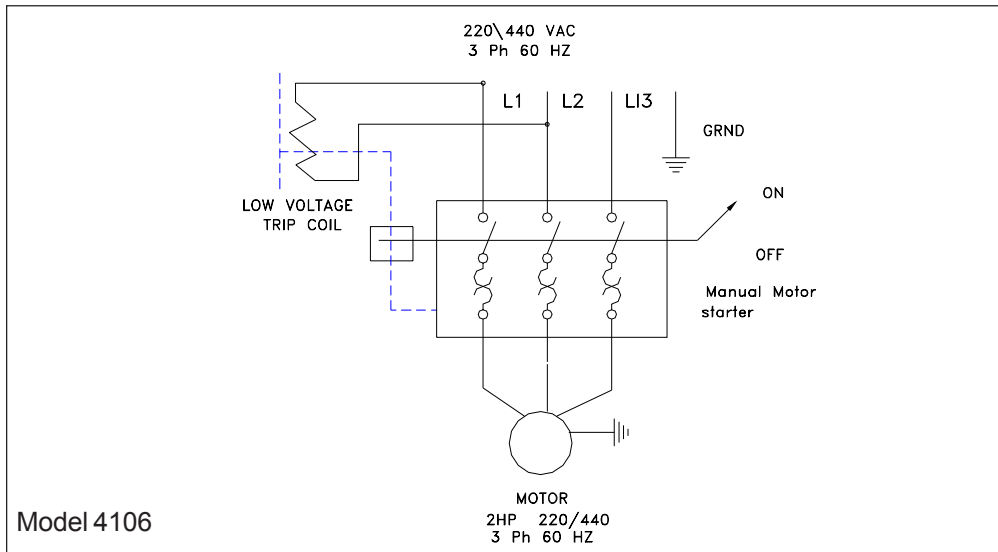
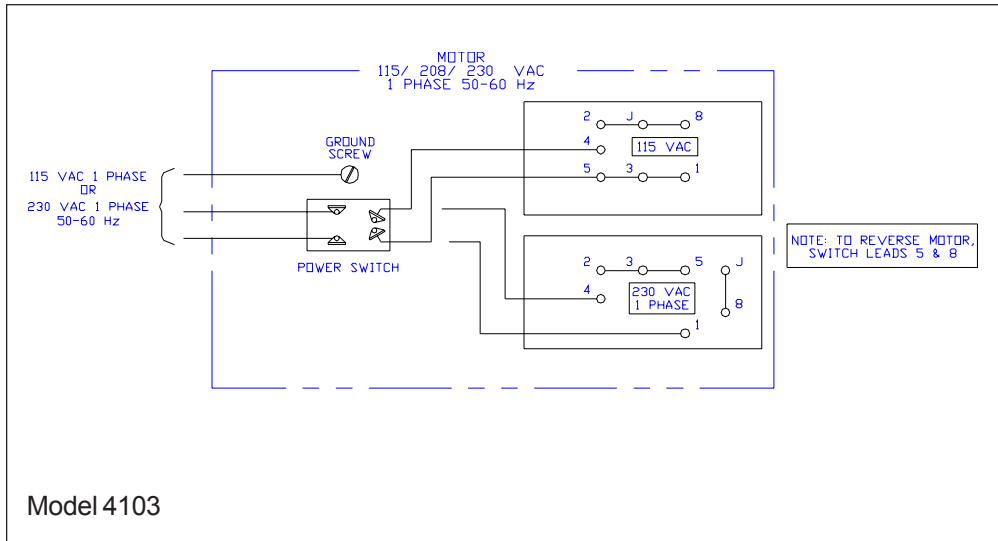
Replacement of Inverter

WARNING: DISCONNECT ELECTRICAL POWER TO THE MACHINE BEFORE PERFORMING ANY MAINTENANCE.

1. Disconnect electrical power.
2. Remove access panel on front of inverter. Disconnect inverter wiring.
3. Remove four screws (1) and four nuts (6) from inverter (2). Separate inverter (2) from mount (4).
4. Install replacement inverter (2) and secure with four screws (1) and four nuts (6).
5. Connect electrical wiring (refer to Wiring Diagram section for connections).
6. Start belt grinder and check for proper operation.

NOTE: Inverter is pre-programmed at the factory, further programming is not required.

Wiring Diagrams



Troubleshooting

Problem	Probable Cause	Suggested Remedy
Poor Tracking	<ol style="list-style-type: none"> 1. Improper belt splice. 2. Excessive belt tension. 3. Insufficient belt tension. 4. Worn contact surfaces. 5. Misaligned contact surfaces. 6. Lack of crown on drive wheel. 7. Worn bearings. 	<ol style="list-style-type: none"> 1. Check belt for irregular seam or shape. 2. Set tension so belt is just taut. 3. Set tension so belt is just taut. 4. Check elastomer on contact wheels. Replace worn wheels. 5. Check alignment of drive wheel and contact wheels. The drive pulley and contact wheel must be aligned. To adjust drive wheel, loosen set screws and move drive wheel in or out on motor shaft as required. To adjust contact wheel, loosen shaft clamping screw and move contact wheel in or out as required. 6. Check for 1/16-inch crown. Replace drive wheel if crown is not present. 7. Check all bearings for overheating or damage. Replace worn or damaged bearings.
Slack Belt	<ol style="list-style-type: none"> 1. Insufficient belt tension. 	<ol style="list-style-type: none"> 1. Set tension so belt is just taut.
Contact Wheel Wear	<ol style="list-style-type: none"> 1. Excessive belt tension. 2. Grinding in one area on belt. 3. Excessive grinding deposits on belt and debris in machine. 	<ol style="list-style-type: none"> 1. Set tension so belt is just taut. 2. Use entire work surface of belt when ever possible. 3. Periodically clean interior of grinder.
Short Belt Life	<ol style="list-style-type: none"> 1. Excessive grinding pressure. 	<ol style="list-style-type: none"> 1. Allow the belt to do the cutting. Excessive pressure dulls the belt and removes the grit from the belt.

Replacement Parts

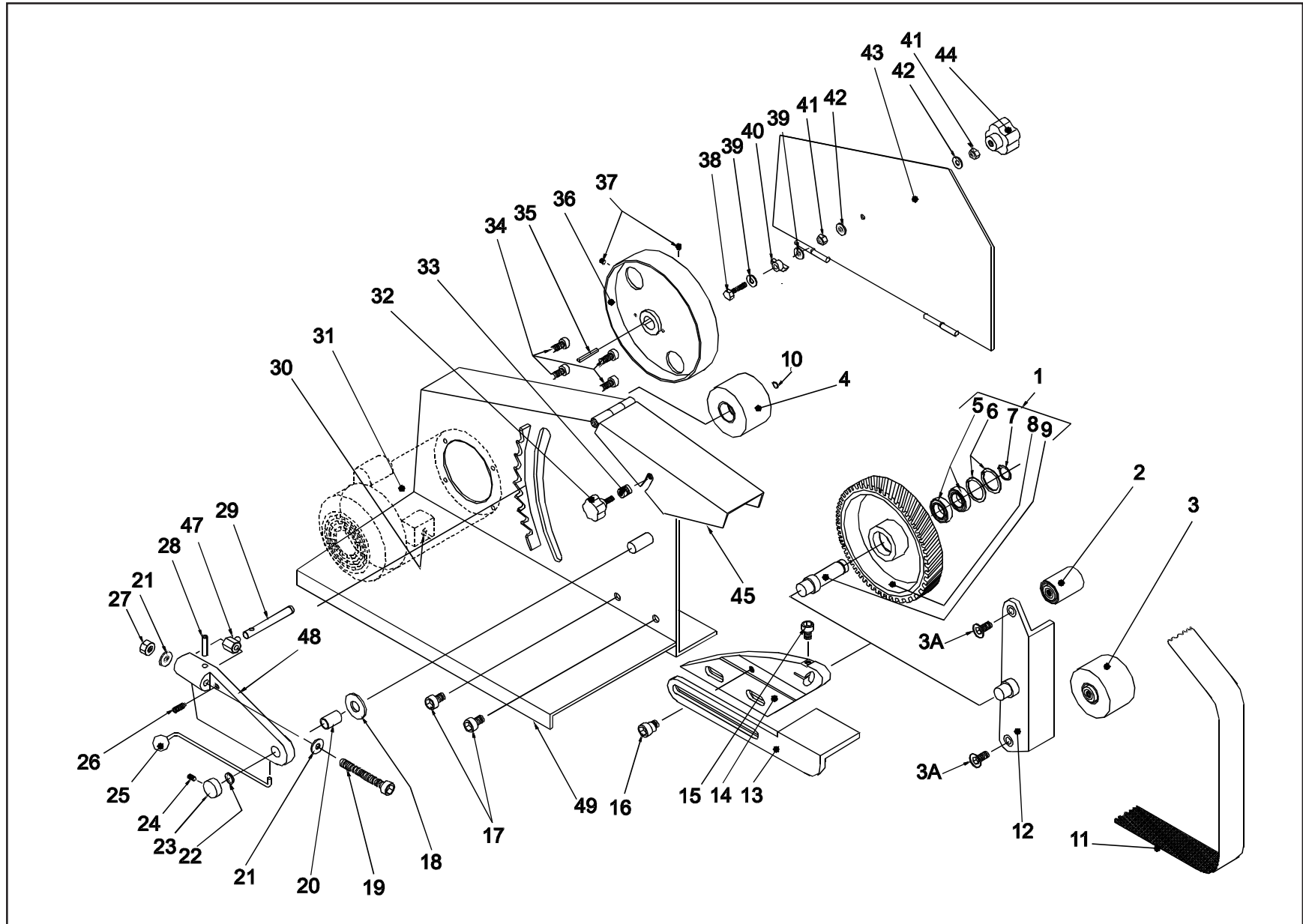
This section provides exploded view illustrations that show the replacement parts for the Wilton Models 4103, 4106 and 4126AC Square Wheel Belt Grinder. Also provided are parts listings that show part number, description and quantity. The item numbers on the illustration relate to the item number in the facing page of the parts listing.

Order replacement parts from:

WMH TOOL GROUP
 2420 Vantage Drive
 Elgin, Illinois 60123
 Phone: 800-274-6848

Identify the replacement part by the part number shown in the parts listing. Be sure to include the model number and serial number of your machine when ordering replacement parts to assure that you will receive the correct part.

Exploded View - Square Wheel Belt Grinder

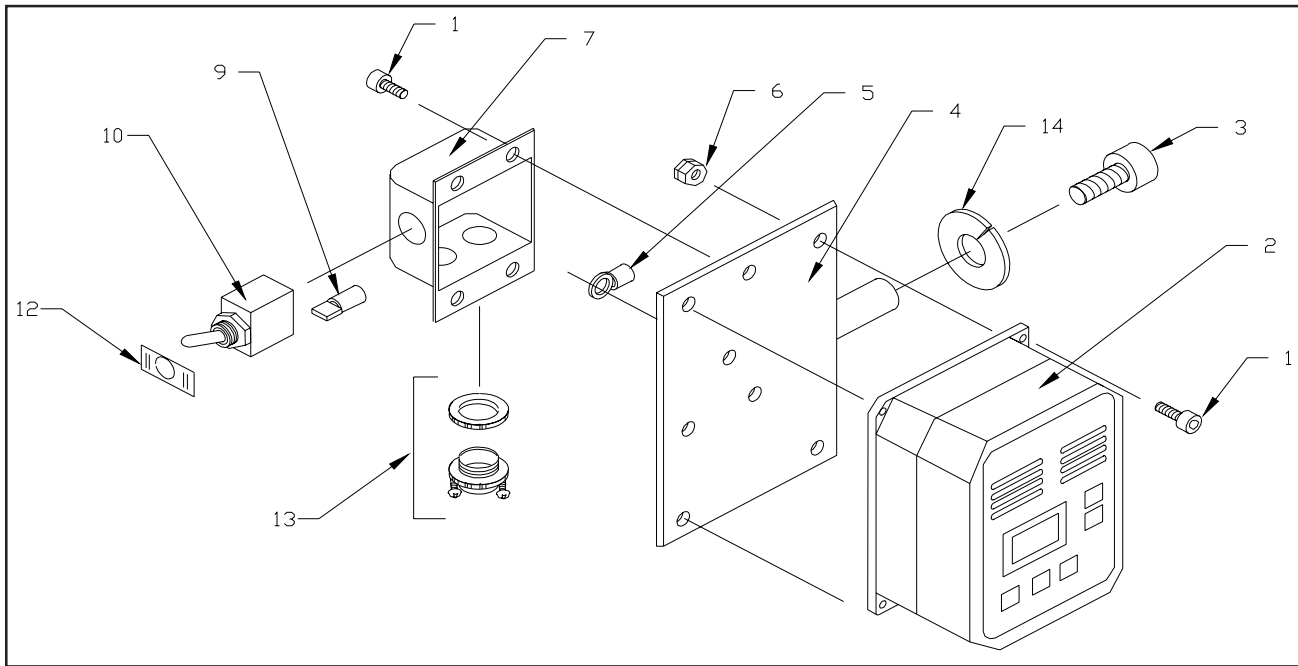


Parts List - Square Wheel Belt Grinder

Ref. No.	Part Number	Description	Qty.
1	5510944	Contact Wheel Assy, 10 x 2 Serrat, 90 Duro	1
	5510943	Contact Wheel Assy, 8 x 2 Smooth, 50 Duro	1
	5510942	Contact Wheel Assy, 8 x 2 Serrated, 50 Duro	1
2	5044590	Contact Wheel Assy, 1-1/2 x 2	1
3	5044610	Contact Wheel Assy, 3 x 2	1
3A	9049821	Screw, Flat Head Cap	2
4	5507582	Idler Wheel	1
5	9100331	Bearing	2
6	9074011	Retaining Ring, Internal	2
7	9074081	Retaining Ring, External	2
8	5510946	Contact Wheel, 8 x 2 Serrated, 50 Duro	1
	5510947	Contact Wheel, 8 x 2 Smooth, 50 Duro	1
	5510948	Contact Wheel, 10 x 2 Serrated, 90 Duro	1
9	5053231	Shaft, 8 x 10 Wheel	1
10	9074381	Retaining Ring, External	1
11	9112811	Abrasive Belt, 2 x 72, 50 Grit (Standard - optional grit below) (10 piece minimum order)	1
12	5044400	Platen Casting	1
13	5044410	Work Rest Casting	1
14	5044370	Head Casting	1
15	9128441	Screw, Socket Head Cap 3/8-16 x 1	1
16	5049990	Screw, Work Rest Machine	1
17	9129881	Screw, Socket Head Cap 3/8-16 x 5/8	2
18	9055361	Flat Washer, Nylon 1/2 I.D. x 1 O.D.	1
19	9129861	Scr, Socket Head Cap, Fill Thrd, 3/8-24 x 3	1
20	5046571	Bearing, Idler Housing	1
21	9055381	Flat Washer, Nylon, 3/8	2
22	9010271	O-Ring, 1/2	1
23	5044651	Cap, Idler Housing Pin	1
24	9133041	Set Screw, Socket Head 1/4-20 x 1/4	1
25	5046560	Lever, Tension	1
26	9133191	Set Screw, Nylon Tipped 5/16-18 x 3/4	1
27	9129561	Locknut, Hex, 3/8-24	1
28	9059811	Roll Pin, 3/16 x 1-1/2	1
29	5053301	Shaft, Idler Pulley	1

Ref. No.	Part Number	Description	Qty.
30	5541241	Switch (Model 4103 only)	1
	5644231	Manual Motor Starter (Model 4106 only)	1
31	9066821	Motor & Switch, 1 HP, Single Phase (Model 4103)	1
	9066831	Motor, 2 HP, 3 Phase (Model 4106)	1
	5508076	Motor, 1 HP, 3-Phase (Model 4126AC only)	1
32	9070361	Knob, Hand	1
33	9070781	Nut, Allen, 5/16-18	1
34	9128671	Bolt, Hex Head, w/Nylock 3/8-16 x 3/4	4
35	9114320	Key, 3/16 x 3/16 x 1-1/4	1
36	5044511	Pulley, Drive	1
37	9054541	Set Screw, Socket Head 5/16-18 x 1/2	2
38	5630451	Screw, Socket Head Hex 5/16-18 x 1-1/2	1
39	5077041	Lock Washer, 5/16	2
40	9070381	Latch, Cam	1
41	5630061	Nut, Hex, 5/16-18	1
42	5507583	Washer, Nylon 5/16	2
43	5055311	Door	1
44	9070371	Knob, Hand	1
45	5044630	Guard Flap Assembly	1
46	9057461	Washer, Flat 0.26 x 0.63 x 0.06	1
47	5046600	Tracking Leader Assembly	1
48	5046540	Casting, Idler Housing	1
49	5541030	Main Frame Assembly	1

Parts List - Inverter



Ref. No.	Part Number	Description	Qty.
1	5550874	Screw, Socket head Cap, 10-32NF x 3/8	7
2	5507817	inverter (1ph, 120V, 50/60Hz)	1
	5507818	Inverter (3ph, 220V, 50/60Hz)	
	5511447	Inverter (3ph, 440V, 50/60Hz)	
3	9128571	Screw, Hex Head 1/2-13 x 1	1
4	5515215	Mount, Inverter	1
5	9119481	Terminal, Full Closed	1

Ref. No.	Part Number	Description	Qty.
6	5508073	Nut, Lock, 10-32 Nylock	4
7	5507934	Box, Switch	1
9	9119721	Spade, Female 16-14AWG	4
10	9117401	Switch, Toggle	1
12	9085061	Dial, ON-OFF	1
13	9119071	Grip, Cord	2
14	5628371	Lock Washer, 1/2	1

Accessories

Belt Grinder Pedestal

The optional pedestal enables the Square Wheel Belt Grinder to be mounted in a free standing configuration rather than on a work bench. The grinder is secured to the pedestal using the four holes in the base of the grinder (refer to page 22).

Dust Collection Systems

A dust collection system is available as an option (refer to page 24 for additional coverage).

The dust collection system can be used in two configurations: as a machine base (Figure 9) or as a stand- alone system (Figure 8).

In the stand-alone configuration, the dust collection system is placed next to the grinding machine, and the dust collection hose connected to the inlet duct. It may also be placed between two grinding machines, making use of the inlet ducts on both sides of the dust collection system.

Another option is to use the dust collection system as a base for the Model 4103 grinding machine in lieu of placing the machine on a bench or on the pedestal. The second inlet duct on the side of the system is available for connecting another grinding machine. In areas with limited space, this may be the most desirable option.

The dust collection system features a chip drawer into which grinding debris is collected. The dust collection system has a filter at the rear to filter out remaining grinding debris.

The system has a removable top that provides access for cleaning and maintenance. The system is controlled by an ON/OFF toggle switch on the motor at the rear of the machine.

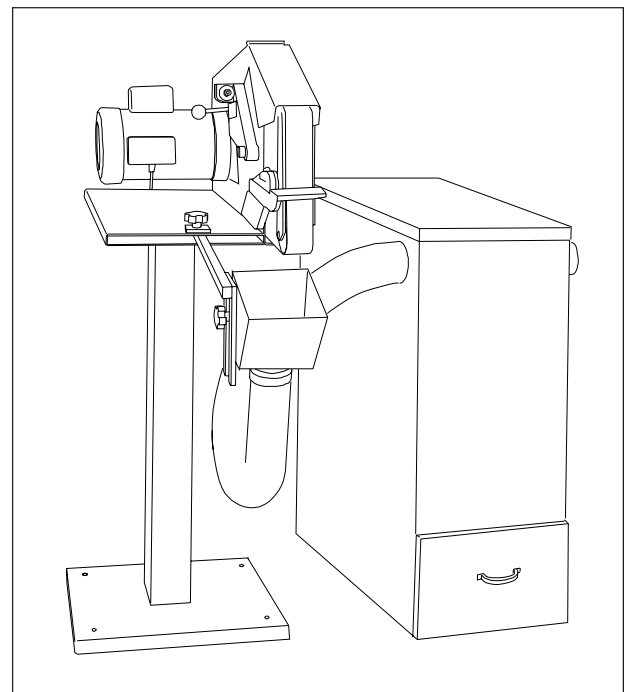


Figure 8: Stand-Alone Dust Collection System

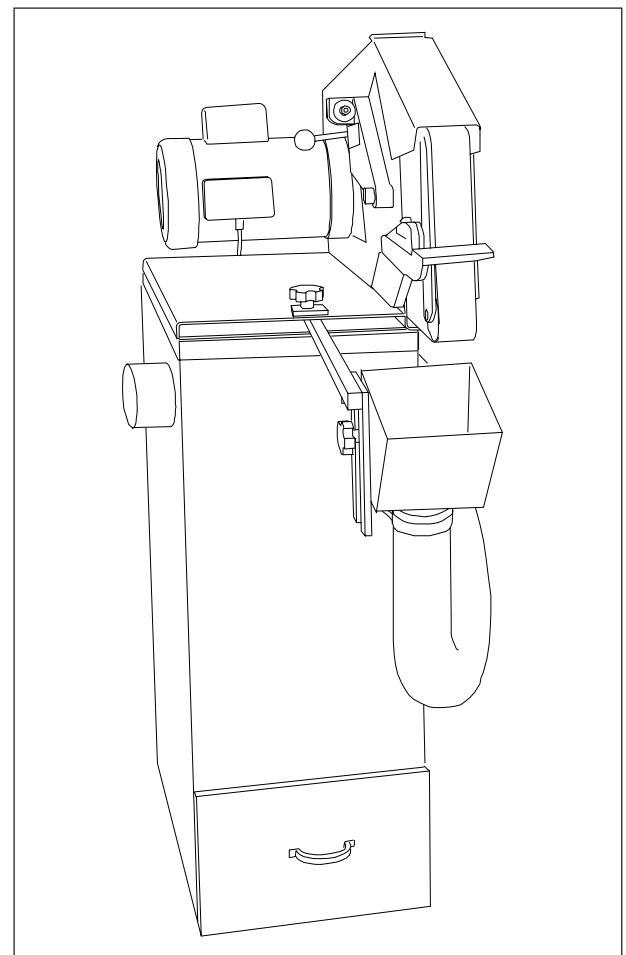
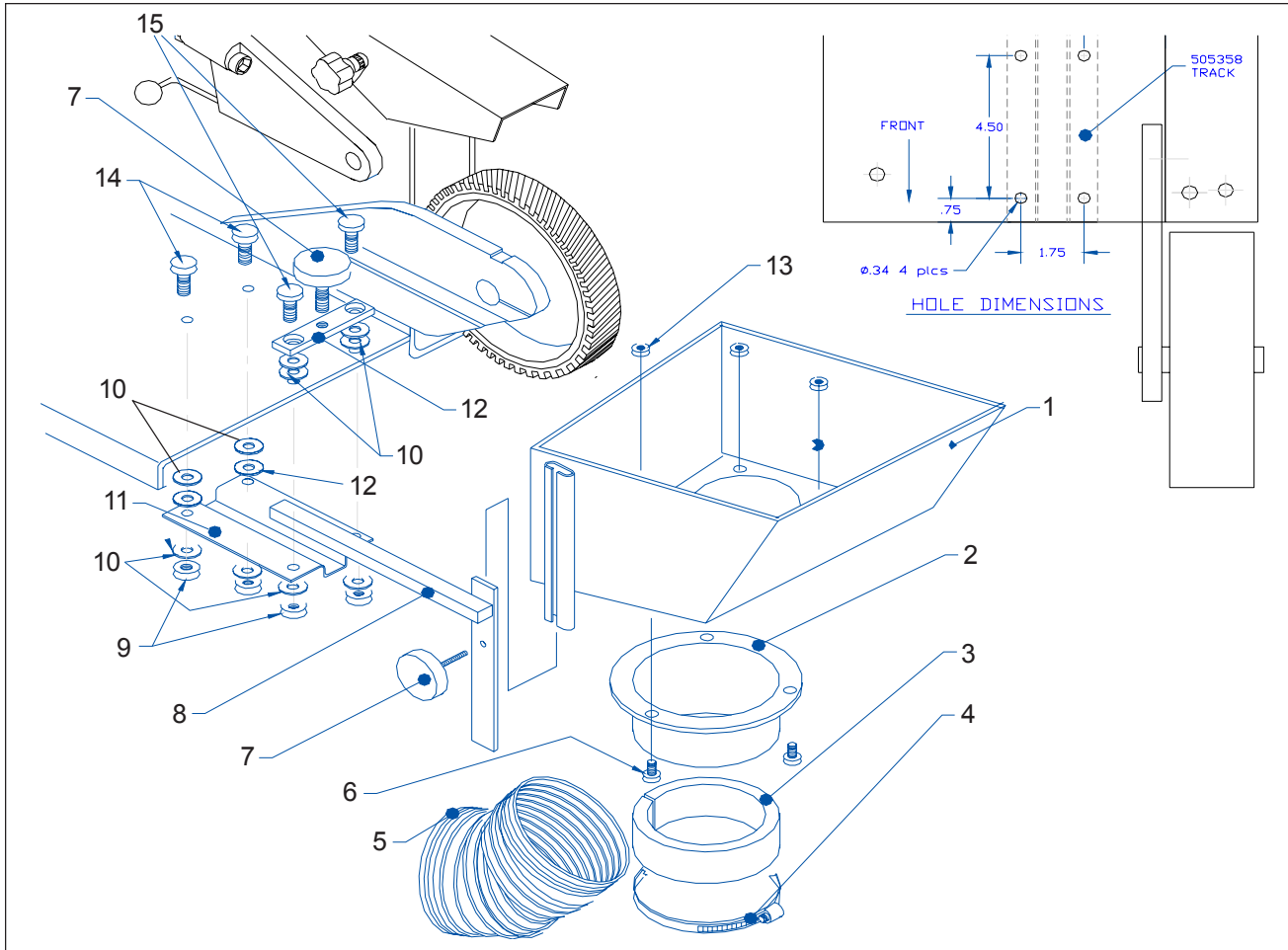


Figure 9: Dust Collection System -
Used as Grinder Base

Exploded View - Vacuum Scoop

A vacuum scoop connects the machine to the vacuum system. The mounting provisions for the scoop are shown in the exploded view below.



18

Ref. No.	Part Number	Description	Qty.
1	5053531	Scoop Assembly	1
2	5052471	Adapter, Hose	1
3	5053601	Reducer, 4 x 3 in. (Woodworkers)	1
	5053611	Reducer, 4 x 3 in. (Metal Workers)	1
4	5507534	Clamp, Hose 3 in.	1
5	5507533	Hose, 3 x 5 in.	1
6	9128241	Screw, HH Cap	3
7	9070361	Knob	2

Ref. No.	Part Number	Description	Qty.
8	5053571	Rail	1
9	9032961	Lock Nut, Nylon Insert	4
10	9055411	Washer, Nylon	8
11	5053581	Channel	1
12	9057391	Washer, Flat	2
13	9056411	Nut, Hex Jam	3
14	9062111	Screw, SHCS (5/16-18 X 3/4)	2
15	9146801	Screw, SHCS Low Head (5/16-18 X 1 1/2)	2

Figure 11: Vacuum Scoop Exploded View

Air Cushioned Dead Head Assembly

Refer to Figures 10 and 11. The air-cushioned dead head is for use on very small radius grinding. When connected to a source of shop air (80-90 psi), the belt rides on a cushion of air to decrease head and belt wear. The dead head is easy to use, and adapts to any of the available radius tips.

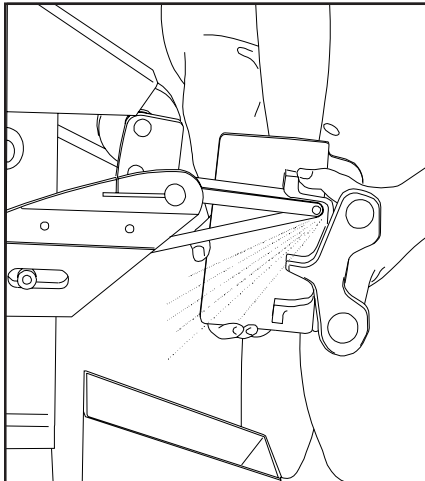
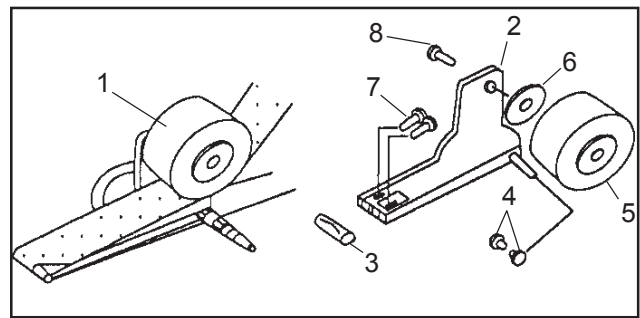


Figure 10: Internal Contouring with Air Cushioned Dead Head



Ref. No.	Part Number	Description	Qty.
1	5044960	Air Cushion Dead Head Assembly (Note 1)	1
2	5044970	Casting, Dead Head	1
3	5044991	Tip, Dead Head, 3/16 R x 2	1
	5045011	Tip, Dead Head, 1/4 R x 2	1
	5045031	Tip, Dead Head, 5/16 R x 2	1
	5045051	Tip, Dead Head, 3/8 R x 2	1
4	5045071	Fitting, Flareless Compression, 1/4 x 1/8	1
5	5044610	Contact Wheel Assembly 3 x 2	1
6	5045101	Spacer	1
7	9062441	Screw, Socket Head Cap 10-32 x 1/2	2
8	9049761	Screw, Socket Head Flare	1

Note 1: Includes 3/8 R x 2 dead head tip 5045051. Other tips available at additional cost.

Install the dead head assembly as follows:

WARNING: DISCONNECT ELECTRICAL POWER TO THE MACHINE BEFORE INSTALLING THE DEAD HEAD ASSEMBLY.

1. Lower tension lever to release belt tension.
2. Loosen clamping screw and remove platen or contact wheel.
3. Insert the shaft of the dead head assembly in head casting. Position dead head assembly with the tip parallel with the machine base. Tighten the clamping screw.
4. Install the belt under the dead head contact wheel and over the dead head tip.
5. Lift the tension lever to tighten the belt.
6. Check belt tracking.
7. Connect pressurized air supply (80-90 psi).
8. Check operation of the dead head assembly.

Figure 11: Air Cushioned Dead Head Assembly Parts Breakdown

Hub and Wheel Assembly

Refer to Figures 12 and 13. The hub and wheel assembly Small Diameter Contact Wheels can be used to adapt a number of other optional attachments for use on the belt grinder. The assembly consists of a pre-balanced hub shaft, collar, and V-belt and a special wrench to enable quick change of the optional attachments.

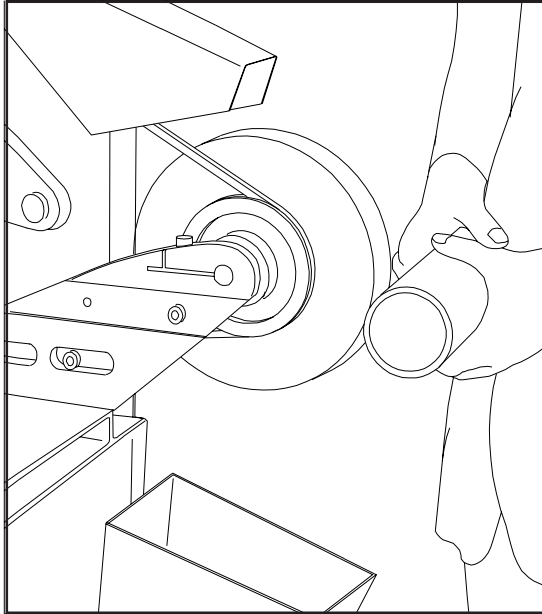
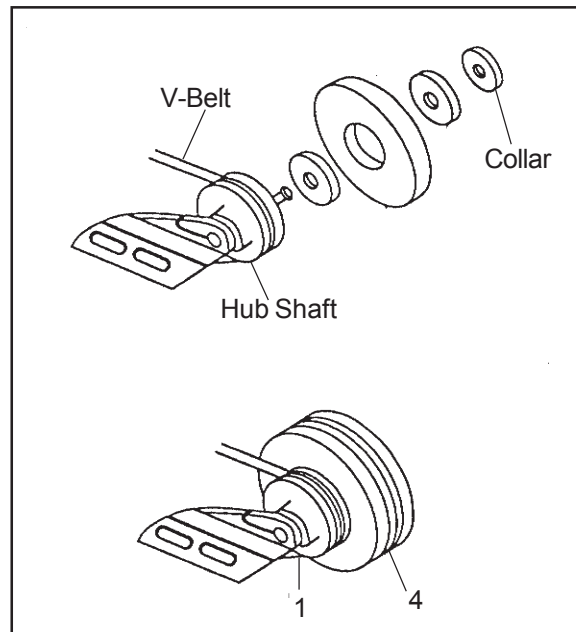


Figure 12: Polishing with Hub and Wheel Assembly



Ref. No.	Part Number	Description	Qty.
1	5054920	Hub and Wheel Assembly (Includes Hub Shaft, V-Belt, Collar, and Special Wrench)	1
2	5045141	Polishing Wheel	1
3	5058071	Spacer Plate	2
4	5044620	Buffer Pad	1

Figure 13: Hub and Wheel Assembly

Install the hub and wheel assembly as follows:

WARNING: DISCONNECT ELECTRICAL POWER TO THE MACHINE BEFORE INSTALLING THE HUB AND WHEEL ASSEMBLY.

1. Lower tension lever to release belt tension.
2. Loosen clamping screw and remove platen or contact wheel.
3. Remove work rest.
3. Insert the shaft of the hub in head casting. Tighten the clamping screw.
4. Install the V-belt around the idler wheel, drive wheel, and wheel of hub and wheel assembly.
5. Raise tension lever to tighten belt.
6. Install polishing wheel or buffing pad as follows:
 - A. Install one spacer plate on threaded shaft.
 - B. Install polishing wheel or buffing pad.
 - C. Install second spacer plate and collar.
 - D. Tighten collar using special wrench.

Small Diameter Contact Wheels

Small diameter contact wheels are useful for grinding or contouring difficult, hard to reach areas (refer to Figure 15). The small diameter contact wheels are available in several sizes. Refer to Figure 14 for a listing of small diameter contact wheels.

Dia. (In.)	Part Number	Description
1/2	5057871	Contact Wheel, 70 Duro
5/8	5057881	Contact Wheel, 70 Duro
3/4	5057891	Contact Wheel, 70 Duro
1	5057901	Contact Wheel, 70 Duro

Figure 14: Small Diameter Contact Wheels.

Assembly of Pedestal

Unpacking

The grinding machine pedestal is shipped separately from the grinding machine. Transport the shipping containers to the installation site before unpacking.

Unpack the pedestal and grinding machine. Locate and open the plastic bag containing four 5/16-18 socket head cap screws. Verify that there are two screws 1-inch long and two screws 1-3/4 inches long (Figure 16, View A).

Securing the Pedestal

WARNING: BOLTING THE PEDESTAL TO THE FLOOR IS STRONGLY RECOMMENDED. THE PEDESTAL IS BOLTED TO THE FLOOR TO ELIMINATE THE POSSIBILITY OF TIP-OVER WHILE THE MACHINE IS BEING OPERATED. FAILURE TO DO SO CAN RESULT IN INJURY TO THE OPERATOR AND/OR OTHER NEARBY PERSONNEL.

The pedestal has four mounting holes in its base. Use these mounting holes to secure the pedestal to the floor before installing the grinder. Shims should be used to level the pedestal before the attaching bolts are tightened.

Assembly

WARNING: THE MACHINE MOUNTING PLATE IS NOT CENTERED ON THE LEG OF THE PEDESTAL. THIS OFFSET EVENLY DISTRIBUTES THE WEIGHT OF THE GRINDING MACHINE.

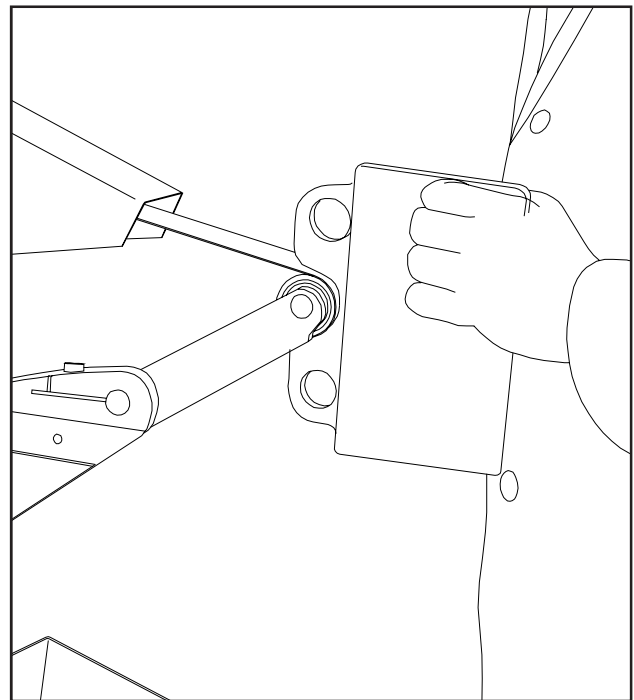


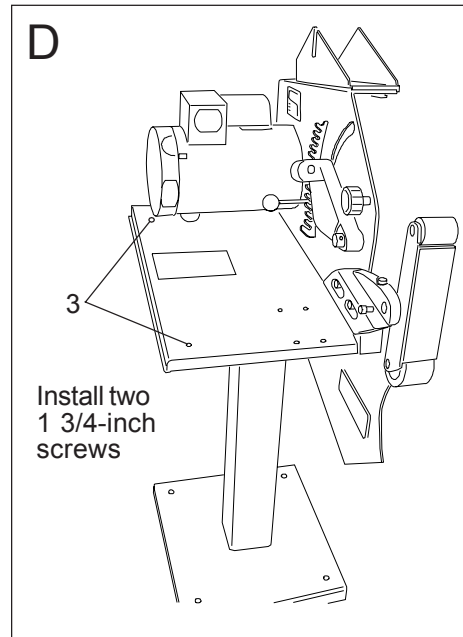
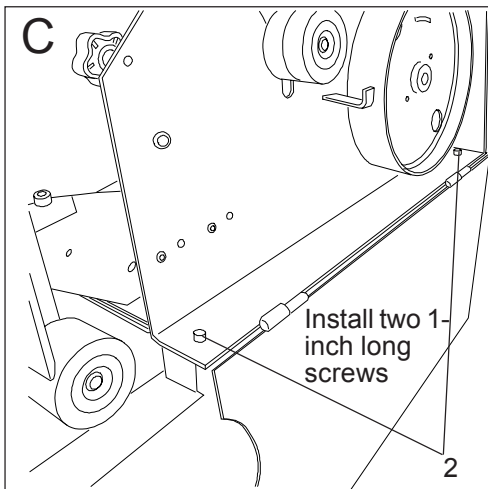
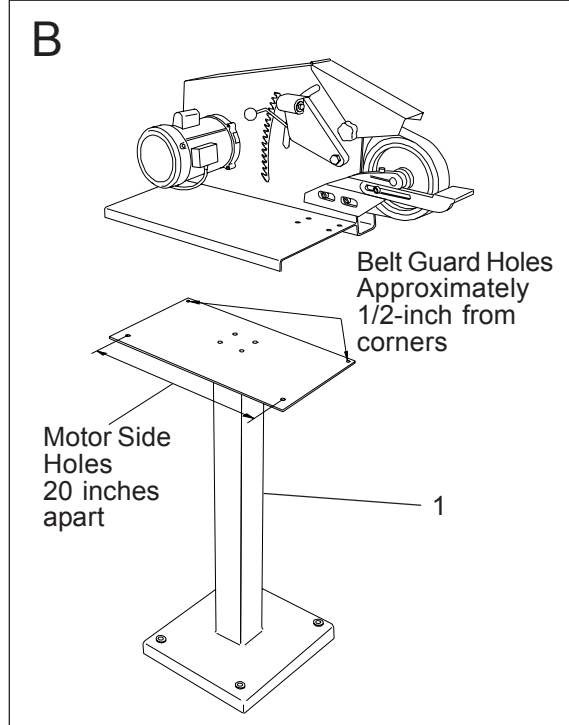
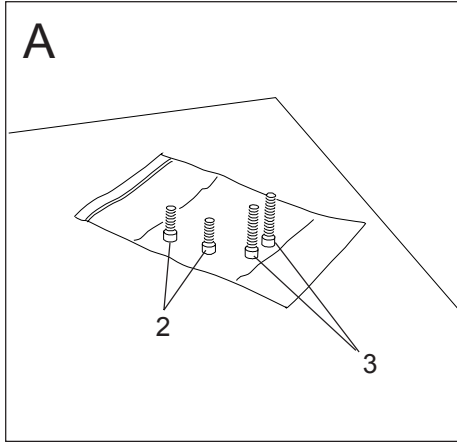
Figure 15: Contouring Using Small Diameter Contact Wheel

MAKE SURE THE GRINDING MACHINE IS CORRECTLY POSITIONED AND SECURED TO THE PEDESTAL BEFORE LEAVING THE MACHINE UNATTENDED. FAILURE TO CORRECTLY POSITION AND SECURE THE MACHINE COULD RESULT IN THE MACHINE TIPPING OVER, CAUSING INJURY TO PERSONNEL.

There are four mounting holes in the mounting plate on the pedestal. The holes on the motor side of the machine are approximately 20 inches apart. The holes on the belt-guard side of the machine are located approximately 1/2-inch from the corners of the plate. When correctly installed, all four screw holes in the machine base plate and belt guard will align with the holes in the mounting plate of the pedestal.

Mounting Procedure

- Using two people or a hoisting device, lift the grinding machine and set it on the pedestal. Align all four screw holes in the machine base plate and belt guard with the holes in the mounting plate of the pedestal (Figure 16, View B).
- Open the grinding belt guard door (Figure 16, View C). Install two 5/16-18 x 1-inch long screws in the base of the grinding belt guard. Install screws finger-tight.
- Install the two 5/16-18 x 1-3/4-inch long screws in the screw holes on the motor side of the machine base (Figure 16, View D). Tighten all four screws.



<u>Ref. No.</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1	5248081	Pedestal	1
2	9062121	Socket Head Cap Screw (5/16-18 x 1)	2
3	5511051	Socket Head Cap Screw (5/16-18 x 1 3/4)	2

Figure 16: Assembly of Grinding Machine and Pedestal

Dust Collection System (Optional)

Installation

Transport the shipping container to the installation site. Unpack the dust collection system and check for damage. Contact the carrier if damage is found.

Open the installation kit (refer to **Optional Accessories** in the parts listing for installation kits). Install cover and debris collection drawer if removed. Slip a hose clamp over the 3-inch vacuum hose. Slip the hose on the inlet duct(s). Move the clamp over the duct to secure the hose.

Repeat the procedure to connect the hose to the other duct on the grinding machine.

Electrical Connection

Refer to the **Dust Collection System Wiring Diagram** for wiring information. Connection to electrical power should be made by a qualified electrician. Observe local electrical codes when connecting the machine.

Operation

The dust collection system motor is started by setting the toggle switch on the motor to the ON position. Set the switch to OFF to shut down the dust collection system.

Maintenance

WARNING:

- **MAKE SURE YOU DISCONNECT ELECTRICAL POWER TO THE DUST COLLECTION SYSTEM BEFORE PERFORMING MAINTENANCE. FAILURE TO DO SO MAY RESULT INJURY TO THE OPERATOR AND/OR MAINTENANCE PERSONNEL.**
- **DO NOT OPERATE THE DUST COLLECTION SYSTEM WITH THE COVER REMOVED. INJURY TO FINGERS AND HANDS FROM THE FAN BLADES, AND INGESTION OF LOOSE FITTING CLOTHING INTO THE AIR INLET WITH RESULTANT INJURY IS ALSO POSSIBLE.**

Cleaning

Periodically dispose of accumulated chips and debris from the chip drawer. Use a brush to loosen debris from internal surfaces. Use a vacuum cleaner to clean up the loosened debris.

Filter

Check for accumulation of debris. Replace the filter at intervals that you determine are appropriate for your shop environment and machine utilization.

Drawer Seal

Check the drawer seal periodically and replace if damaged or missing. Keep the seal in good condition to help maintain collection system efficiency.

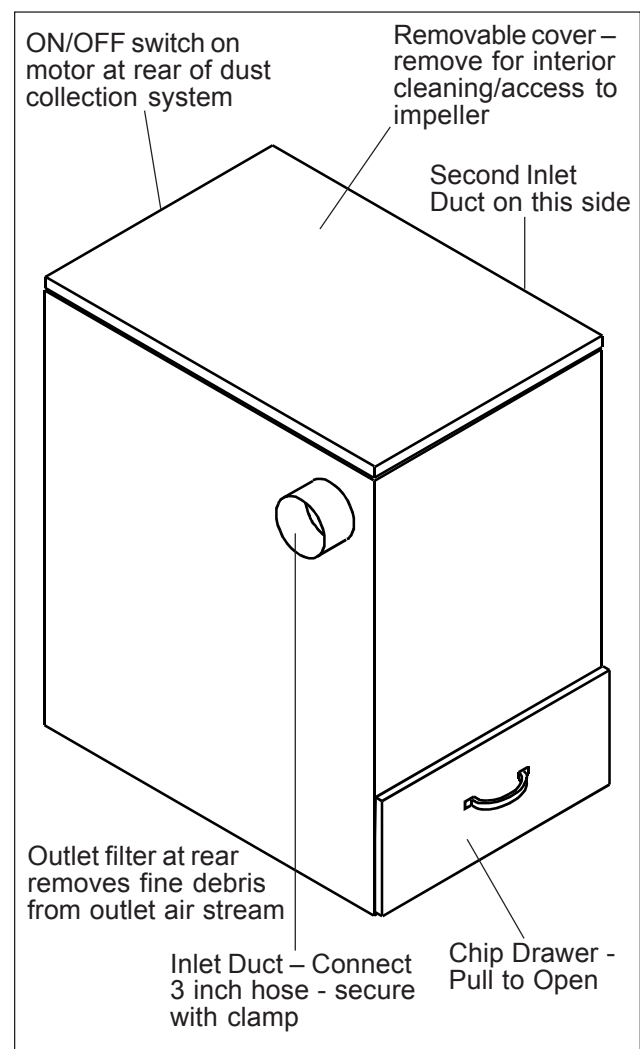


Figure 17: Dust Collector Assembled View

Disassembly

Disassembly of the dust collection system is required only to replace the motor or the fan components. The motor switch, if failed, can be replaced without removal of the motor.

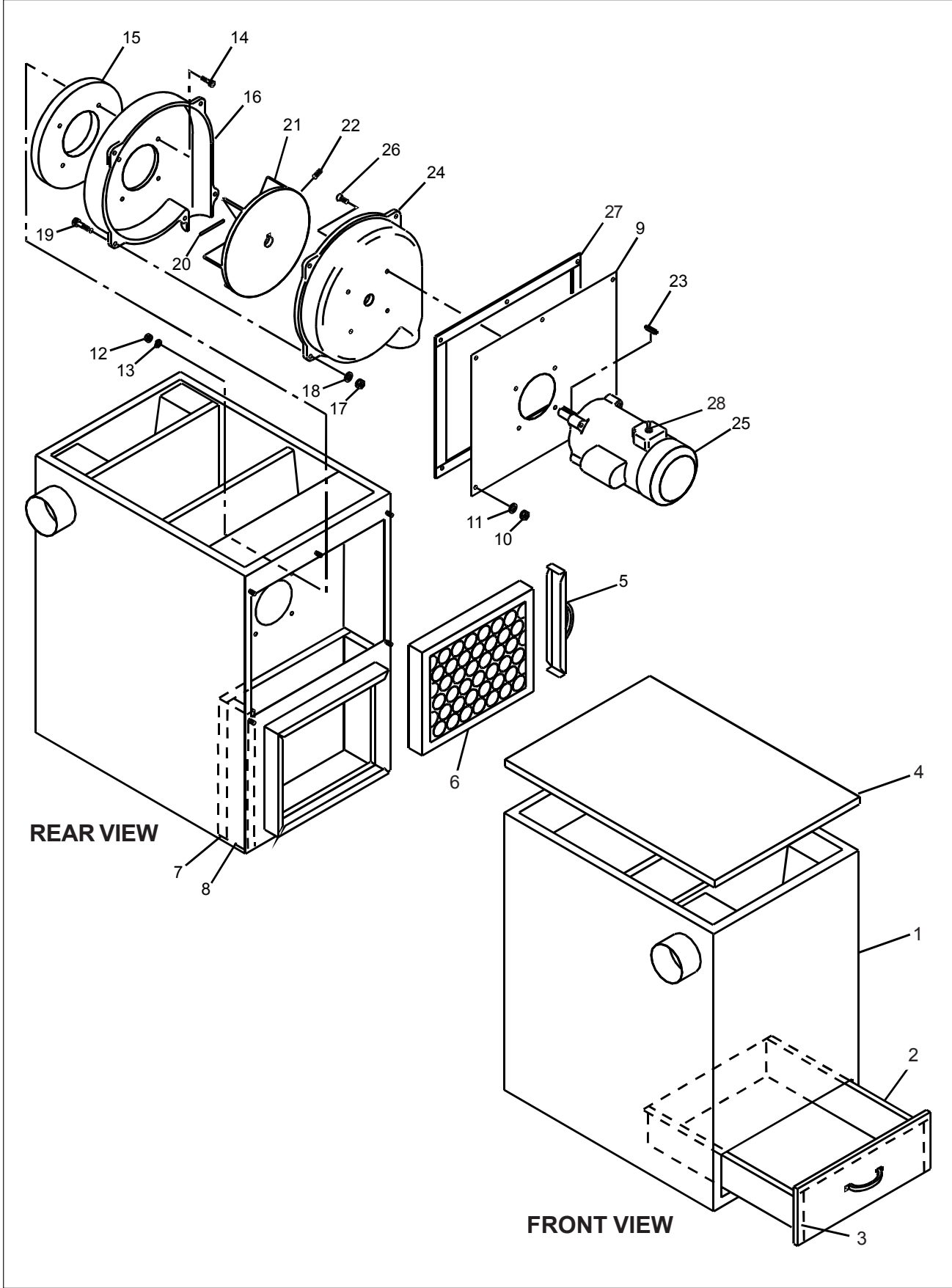
1. Remove chip drawer (2) and cover (4) from base (1).
2. Remove the filter cover (5) and filter (6). Replace filter if required.
3. Remove five nuts (10) and lock washers (11) from studs at rear of base (1).
4. Remove four nuts (12) and lock washers (13) from screws (14). Remove screws (14) from inside fan housings. Separate motor support panel (9) (with fan and motor still attached) from base (1).
5. Remove five nuts (17), lock washers (18) and screws (19) that secure the fan housings together.
6. Using a flat bladed tool, separate the outer fan housing (16) from the inner fan housing (24).
7. Using an Allen wrench, loosen set screw (22). Remove fan (21) from shaft of motor (25). Remove key (23) from motor shaft.
8. Use a flat-bladed screwdriver to hold flat head screws (28) (in inner fan housing). Remove four nuts (26) and lock washers (27) from the flat head screws (28) in motor mounting lugs.

Assembly

Assembly is the reverse of disassembly. Observe the following during assembly:

1. Assemble motor (25) and inner fan housing (24) on rear panel; make sure fan duct is facing downward.
2. Make sure guard strap (20) is installed in the recesses in fan duct.
3. Mate fan housings (16 and 24). Turn fan (21) by hand to check for rubbing. Adjust fan as required.
4. Use a spare screw or a Phillips screwdriver to align screw holes in outer fan housing (16), spacer (15), and in the internal panel of base (1).
5. With the screw holes aligned, install the support panel (9) on the five studs at the rear of base (1).
6. Connect electrical power and check operation of the dust collection system.

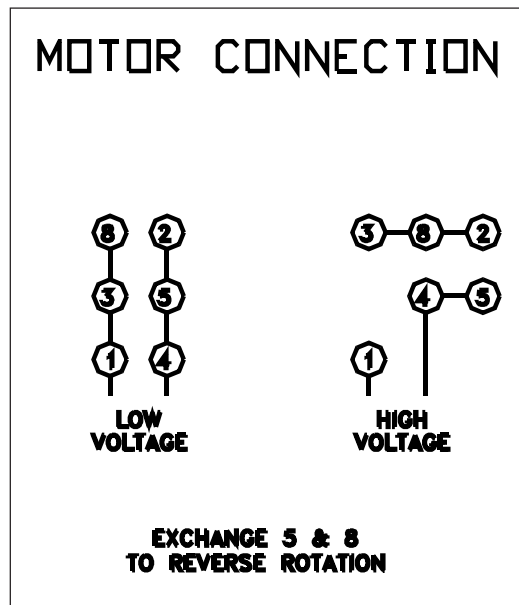
Exploded View – Model 5511885 Dust Collection System



Parts List – Model 5511885 Dust Collection System

Ref. No.	Part Number	Description	Qty	Ref. No.	Part Number	Description	Qty
1	5514731	Base	1	19	5514748	Screw, Hex Head	5
2	5514732	Drawer, Chip		20	5514749	Strap, Guard	1
3	5514733	Seal, Tape (5-feet long)	1	21	5514750	Fan	1
4	5514734	Cover	1	22	5514751	Screw, Set	1
5	5514735	Cover, Filter		23	5514752	Key	1
6	5514779	Filter	1	24	5514753	Housing, Inner Fan	1
7	5514736	Panel, Rear Foam	1	25	5514754	Motor	1
8	5514737	Panel, Side Foam	2	26	5514755	Screw, Hex Head	4
9	5514738	Panel, Motor Support	1	27	5514756	Seal, Tape 5-feet long	1
10	5514739	Nut, Hex	5	28	5514757	Switch, Motor	1
11	5514740	Washer, Lock	5	<p>Connection Kits: Refer to Wilton catalog for appropriate connection kit for your grinding machine or contact Wilton for assistance.</p>			
12	5514741	Nut, Hex	4				
13	5514742	Washer, Lock	4				
14	5514743	Screw, Hex Head	4				
15	5514744	Spacer	1				
16	5514745	Housing, Outer Fan	1				
17	5514746	Nut, Hex	5				
18	5514747	Washer, Lock	5				

Wiring Information - Dust Collection System



WMH TOOL GROUP
2420 Vantage Drive
Elgin, Illinois 60123
Phone: 800-274-6848