Operating Instructions and Parts Manual
Belt and Edge Mill

Belt and Edge Milling Models: J-4500, J-4501
Edge Milling Models: J-4505, J-4506

J-4505 Edge Milling Machine

J-4500 Belt and Edge Milling Machine

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Part No. M-414604
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Warranty and Service

Walter Meier (Manufacturing) Inc., warrants every product it sells. If one of our tools needs service or repair, one of our Authorized Service Centers located throughout the United States can give you quick service. In most cases, any of these Walter Meier Authorized Service Centers can authorize warranty repair, assist you in obtaining parts, or perform routine maintenance and major repair on your JET® tools. For the name of an Authorized Service Center in your area call 1-800-274-6848.

MORE INFORMATION

Walter Meier is consistently adding new products to the line. For complete, up-to-date product information, check with your local Walter Meier distributor, or visit waltermeier.com.

WARRANTY

JET products carry a limited warranty which varies in duration based upon the product (MW stands for Metalworking, WW stands for Woodworking).

90 DAY WARRANTY	1 YEAR WARRANTY	2 YEAR WARRANTY	3 YEAR WARRANTY	5 YEAR WARRANTY	LIFE LIFETIME WARRANTY
Lathe Accessories Machine Accessories Mobile Bases Safety Equipment Specialty Items Vise Accessories	Air Tools-Contractor Air Tools-Industrial Air Tools-Light Industrial Lubrication	Body Repair Kits Bottle Jacks Cable Pullers Cold Saws Hoists-Air Hoists-Electric Metal forming Mill/Drills Milling Machines MW Bandsaws MW Drill Presses MW Finishing Equipment MW Lathes MW Precision Vises Palet Trucks Rigging Equip. Service Jacks Stackers Surface Grinders Tapping Trolleys-Air Trolleys-Electric Web Slings Winches-Electric	WW Benchtop Tools	Beam Clamps Chain Hoist-Manual Lever Hoists Pullers-JCH Models Scissor Lift Tables Screw Jacks Trolleys-Geared Trolleys-Plain Winches-Manual WW Air Filtration WW Bandsaws WW Buffers WW Drill Presses WW Dust Collectors WW Dust Filters WW Dust Fittings WW Jointers WW Lathes WW Planers WW Sanders WW Shapers WW Tablesaws	Fastening Tools Mechanics Hand Tools Striking Tools Vises (no -precision) Clamps

Warranty reverts to 1 Year Warranty if woodworking (WW) products listed above are used for industrial or educational purposes.

WHAT IS COVERED?

This warranty covers any defects in workmanship or materials subject to the exceptions stated below. Cutting tools, abrasives and other consumables are excluded from warranty coverage.

WHO IS COVERED?

This warranty covers only the initial purchaser of the product.

WHAT IS THE PERIOD OF COVERAGE?

The general JET warranty lasts for the time period specified in the product literature of each product.

WHAT IS NOT COVERED?

Three Year, Five Year and Lifetime Warranties do not cover products used for industrial or educational purposes. Products with Three Year, Five Year or Lifetime Warranties that are used for industrial or education purposes revert to a One Year Warranty. This warranty does not cover defects due directly or indirectly to misuse, abuse, negligence or accidents, normal wear-and-tear, improper repair or alterations, or lack of maintenance.

HOW TO GET SERVICE

The product or part must be returned for examination, postage prepaid, to a location designated by us. For the name of the location nearest you, please call 1-800-274-6848.

You must provide proof of initial purchase date and an explanation of the complaint must accompany the merchandise. If our inspection discloses a defect, we will repair or replace the product, or refund the purchase price, at our option. We will return the repaired product or replacement at our expense unless it is determined by us that there is no defect, or that the defect resulted from causes not within the scope of our warranty in which case we will, at your direction, dispose of or return the product. In the event you choose to have the product returned, you will be responsible for the shipping and handling costs of the return.

HOW STATE LAW APPLIES

This warranty gives you specific legal rights; you may also have other rights which vary from state to state.

LIMITATIONS ON THIS WARRANTY

WALTER MEIER (MANUFACTURING) INC., LIMITS ALL IMPLIED WARRANTIES TO THE PERIOD OF THE LIMITED WARRANTY FOR EACH PRODUCT. EXCEPT AS STATED HEREIN, ANY IMPLIED WARRANTIES OR MERCHANTABILITY AND FITNESS ARE EXCLUDED. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG THE IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

WALTER MEIER SHALL IN NO EVENT BE LIABLE FOR DEATH, INJURIES TO PERSONS OR PROPERTY, OR FOR INCIDENTAL, CONTINGENT, SPECIAL, OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OF OUR PRODUCTS. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

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Table of Contents

General Specifications

The JET Model J-4500 and J-4501 combination Belt and Edge Milling Machines offer a wide range of performance capabilities. The operations performed on the abrasive belt include deburring, contouring, mitering, and flat finishing on a variety of shapes and materials.

The JET Model J-4500 and J-4501 combination Belt and Edge Milling Machines, and the stand-alone Model J-4505 and J-4506 Edge Milling Machines have edge milling capability.

The milling machine performs operations such as chamfering, beveling, and deburring of ferrous and non-ferrous materials. The cutter can be quickly raised or lowered to achieve the desired cutting depth. The table can also be adjusted to change the angle of the bevel on the edge of the work piece. The edge mill repetitively delivers high quality milled finishes.

Model	Stock No.
J-4500	414604
J-4501	414605
J-4505	414606
J-4506	414607

Standard Features

Edge Mill Finisher

- Easily chamfers, bevels or deburrs edges.
- Mills at angles from 15 degrees to 45 degrees.
- Easily adjustable cutter depth.
- 3-inch milling cutter with 8 replaceable cutter inserts.
- Cast iron V-table.
- Heavy-duty, one-piece stand.

6-Inch Belt Finisher

- Adjustable, heavy-duty, cast iron, removable platen for hands-free finishing of odd shapes.
- Belt operates at any angle – horizontally, vertically, or any angle in between.
- Fine thread adjustment for simple and easy belt tracking.
- Large cast iron ribbed table.
- Table tilts 45 degrees outward to 20 degrees inward.
- Adjustable dust deflector and dust chute.
- Optimum speed of 2,850 SFPM, which is ideal for both metal and wood finishing requirements.
- Completely enclosed drums and guarded grinding belt.
- Upper idler drum supported on both sides by bearings.
- Plain and compound miters are easily obtained by using the standard die-cast aluminum miter gauge.
- Powered by heavy-duty UL/CSA approved 1.5 horse-power TEFC motor.

Specifications

Models J-4500, J-4501 — Combination Belt and Edge Milling Machine	
Table Dimensions	7-3/8 X 14-3/4 Inches
Table Tilt	45 Degrees Outward; 20 Degrees Inward
Platen Dimensions	6-1/4- X 14-3/4 Inches
Belt Size	6 X 48 Inches
Belt Speed	2,850 SFPM
Dimensions	25-1/2 (W) X 19 (D) X 57-1/2 (H) Inches
Weight	250 Pounds
Model J-4505, J-4506 — Edge Milling Machine	
Minimum Work Piece Length	3.5 Inches
Maximum Cut at 45 Degrees	1/4-Inch
Minimum Cut at 15 Degrees	3/16-Inch
Bevel Angle	15 Degrees to 45 Degrees
Cutter Inserts	8 Replaceable Carbide Inserts
Weight	225 pounds

⚠ WARNING

General Machinery Cautions

- 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 Walter Meier (Manufacturing) Inc.

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, JET'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. Special electrics should be used when working on flammable materials.
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. 12	No. 8

Safety requirements for abrasive sanding machines

Abrasive sanding can be hazardous to operators and bystanders. Sanding sparks, chips and dust particles thrown off by the sanding 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 sanding materials which are flammable or have other hazardous properties. You should always consult the manufacturer of such materials for instructions on sanding and handling.
5. Do not force or jamb the workpiece into the sanding disc.
6. Before sanding, always allow the motor to come up to operating speed, then check the sanding 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 sanding 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 Farenheit. Failure to do so could cause premature disc failure.
8. Examine the face of the sanding disc carefully. Excessive sanding which wears down to the backing material can tearing of 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**.

Figure A

Figure B

Figure C

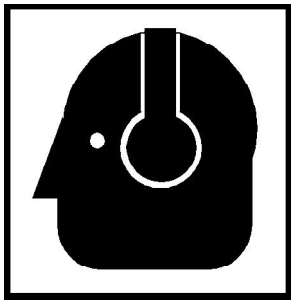


Figure D

Figure A

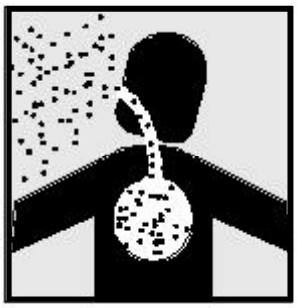


Figure B

Figure C

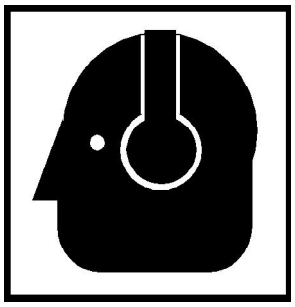


Figure D

Safe operating instructions for vertical milling machines

1. Only persons fully trained in the use of a milling machine shall be allowed to operate the machine.
2. All work shall be secured to the table using appropriate clamps such as T-slot clamps, or shall be secured in a vise which is secure to the table using such a clamping system.
3. It is the responsibility of the operator to be certain that the collet or other tool holder is securely held by the draw bar before starting the machine. Also, the operator shall be responsible for locking any table, knee or quill locks.
4. The operator shall never remove, insert, or adjust tooling held by the spindle, nor place, adjust or remove any workpieces on the table, unless the electrical cutout device has disconnected the machine from its branch power source. IT IS NOT SUFFICIENT THAT THE MOTOR SWITCH BE IN OFF POSITION -- the branch must be disconnected to prevent the possibility of accidental machine start-ups.
5. Only tooling designed specifically for use on a vertical mill of the type being used shall be used for machining. Tooling shall always be maintained and properly sharpened. All tooling must be run at the proper feeds and speeds as they apply to the job. It shall be the responsibility of the operator to obtain the necessary feed and speed data from tool or workpiece suppliers, or from appropriate machinist's reference manuals.
6. When any tooling or accessories are used, they must be designed specifically for the milling machine type being used, and it shall be the responsibility of the operator to obtain adequate instructions on safe operation of any such tooling or accessories from the manufacturer or vendor of those devices.
7. Failure to follow these instructions may result in damage to the tooling used, damage to workpieces being machined, and possible severe injury to the machine operator.
8. The operator of the machine SHALL NOT WEAR GLOVES at any time the machine is connected to its branch power source. If the machine is disconnected, gloves may be worn to protect the operator from cuts or injury from the tooling - but these gloves MUST BE REMOVED BEFORE THE MACHINE IS RE-CONNECTED TO ITS SERVICE BRANCH.
9. Never brush away chips when the machine is ON.
10. Never use air under pressure to blow chips away from the machine or workpiece. PROTECT YOUR EYES. See A, below.
11. Always wear protective eyewear when operating the machine. Eyewear shall be a full coverage face shield or impact resistant, protective safety glasses with side shields meeting ANSI Specification Z87.1. Use of eyewear which does not meet this standard could result in severe injury due to breakage of eye protection.
12. When machining material which causes dust, a dust mask shall be worn. See B, below.
13. Avoid contact with coolant, protecting especially the eyes.
14. Non-slip safety footwear shall be worn. See C, below.
15. Wear ear protectors (plugs or muffs) during extended periods of operation. See D, below.
16. Always keep hands in clear sight of all moving parts. Never put fingers around or under cutting tools. Especially, KEEP HANDS CLEAR OF THE CUTTING AREA WHEN THE MACHINE IS CONNECTED TO POWER. See E, below.

Figure A

Figure B

Figure C

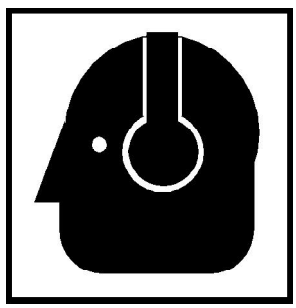


Figure D

Introduction

This manual includes operating and maintenance instructions for the JET Models J-4500 and J-4501 Belt Grinder and Edge Milling Machine. This manual also provides operating and maintenance instructions for Models J-4505 and J-450 Edge Milling Machine. Parts listings and illustrations for replaceable parts are provided at the back of the manual.

Belt and Edge Milling Machine Features

Figures 1 and 2 depict the main features of the JET Models J-4500 and J-4501 combination Belt Grinder and Edge Milling Machine. The discussion of the edge milling features also applies to stand-alone Edge Milling Machines, Models J-4505 and J-4506.

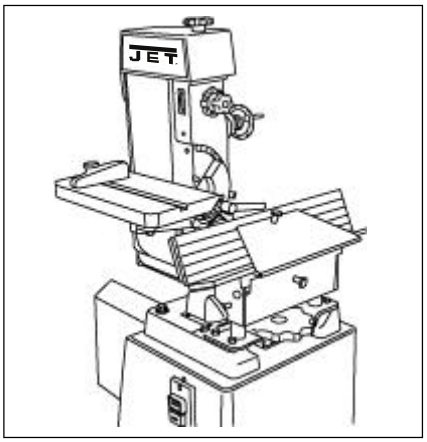


Figure 1: Belt and Edge Milling Machine (Frontal View)

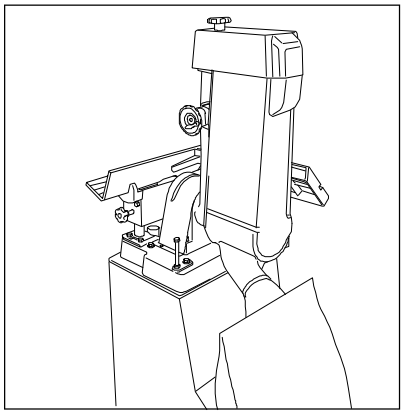


Figure 2: Belt and Edge Milling Machine (Rear View)

The drive motor for the machine is mounted in the machine base. Access to the motor is gained through a removable panel on the rear of the machine. An ON/OFF switch is mounted on the side of the machine base.

The belt grinder and the milling cutter are driven by a pulley mounted on a common shaft. Access to the belt is gained by removing a pulley guard on the top of the machine base.

Belt Grinder

The platen of the belt grinder can be positioned vertically or horizontally. A worktable is provided as a means to steady the work piece during grinding. The belt grinder worktable can be tilted 45 degrees outward and 20 degrees inward to accommodate the configuration of the work piece.

A tracking adjustment knob on the side of the platen housing provides a means to adjust the tracking of the grinding belt when required. A belt tension hand wheel is provided on one side of the platen housing. The hand wheel is used to adjust the tension of the grinding belt.

The belt grinder can be used for contouring by removing the upper cover. The grinding belt can be replaced by removing a removing the upper cover, releasing the belt tension lever, and slipping the belt from the belt grinder drums.

Edge Mill

The edge mill cutter is located at the front of the machine. The cutter is covered with a protective guard. A guard on the top of the edge mill worktable provides operator protection when the belt grinder is being used.

The edge mill worktable can be raised or lowered to change the depth of cut. The table is mounted on two vertical posts that guide the worktable when it is being raised or lowered. A horizontally mounted adjustment wheel is turned clockwise or counter-clockwise as required to raise and lower the cutter. Clamping knobs are provided at both ends of the table to secure the worktable to the vertical posts.

The worktable can be adjusted to cutting angles of 15 to 45 degrees. Cap screws in the table supports are loosened to change the cutting angle.

The cutter wheel has eight cutter inserts can be replaced when worn or damaged. The cutter wheel can be removed by removing a cap screw at the center of the cutter.

Setup and Operation

Machine Set-Up

<u>WARNING:</u> JET RECOMMENDS THAT ANY ELECTRICAL CONNECTIONS BE MADE BY A QUALIFIED, LICENSED ELECTRICIAN WHO IS FAMILIAR WITH CODES AND PRACTICES FOR YOUR GEOGRAPHIC AREA. These machines make use of high voltage power that poses a significant risk of *serious injury or DEATH* if proper precautions are not used.

1. Work table surfaces have a protective coating on them. Use mineral spirits or other appropriate non-flammable solvent to clean off this protective coating.
2. Place the machine where it will be located on the shop floor.
3. Open the door in the base of the machine and, using the holes in the base as a template, mark the floor for the position of the hold-down bolts.
4. Move the machine to expose the hold-down bolt marks and install anchors for the hold-down bolts.
5. Place the machine back over the hold-down anchors and bolt the machine securely to the shop floor. Securing the machine to the floor is recommended to assure safe operation.
6. Connect electrical power to the machine. The source connection will vary according to the model purchased. Refer to the wiring data section for details.

Operating Controls

The operating controls consist primarily of an ON/OFF switch (Refer to Figure 3) mounted on the side of the machine base. Other operating controls for the belt grinder and edge mill are discussed in the ***Operating Instructions*** section.

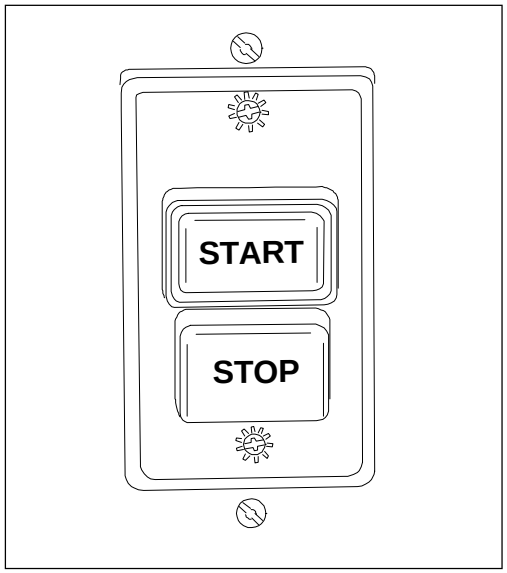


Figure 3: ON/OFF switch

Operating Instructions

Belt Grinder Operation

Abrasive belt grinders are used to remove stock from a wide variety of machinable materials. Different materials require different grit types and grades to achieve the desired stock removal rate and surface finish. Please consult with your abrasive materials supplier for specific recommendations on the correct grit material and grade for your specific needs.

Before operating your grinder, read the safe operating instructions at the front of this manual.

The grinding belt must be in good condition, at proper tension, and tracking correctly, before doing any grinding, grinding or other abrasive machining operations. Refer to the section on *Track Mechanism Maintenance* if you have any problems with belt tension or tracking.

Adjusting belt grinder table

You can tilt the table 20 degrees upward and 45 degrees downward. A locking handle on the side of the table is used to lock and unlcock the table to permit adjustment.

There are two positive lock stop positions: at 90 degrees and at 45 degrees downward.

CAUTION: NEVER ADJUST THE TABLE ANGLE WHILE THE GRINDER IS RUNNING. ALWAYS TURN OFF THE MOTOR BEFORE ADJUSTING THE TABLE ANGLE.

To tilt the belt grinder table:

1. Unlock the locking handle on the side of the table.
2. Using the pointer and scale, set the angle to any required angle between 20 degrees upward and 45 degrees downward.
3. Lock the lock handle.

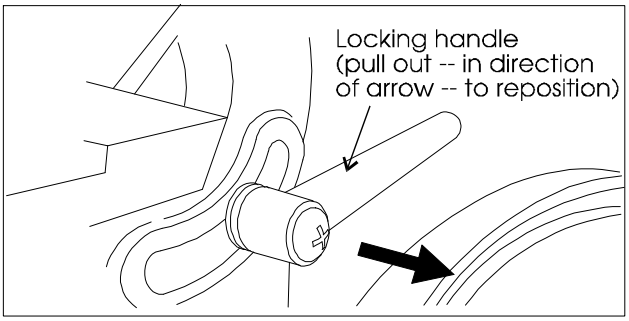


Figure 4: Locking handle for belt table

To tilt the table to exactly 45 degrees:

1. Flip out the stop bracket (see Figure 4.)
2. Unlock the locking handle.
3. Move the table until it contacts the stop bracket.
4. Lock the table lock handle.

Using the indexing lock handle

The lock handle (Figure 4) is spring loaded and can be repositioned on its shaft to permit easy locking and unlocking.

To reposition the handle:

1. Pull outward against its spring.
2. Rotate the handle to the position you require.
3. Release the handle and its spring will return it to the correct operating position.

Adjusting the Belt Grinder Arm

The arm that holds the grinding belt can be set at a fully vertical position, a fully horizontal position, or at any angle in between. A positive stop mechanism is used to permit quick adjustment to vertical or horizontal positions.

CAUTION: NEVER ADJUST THE ARM ANGLE WHILE THE GRINDER IS RUNNING. ALWAYS TURN OFF THE MOTOR BEFORE ADJUSTING THE ARM ANGLE.

To adjust to vertical:

1. Unlock both of the lock bolts. These are located under the arbor cover. (See Figure 5.)
2. Move the arm to vertical until it contacts its stop.
3. Tighten both of the lock bolts, and replace arbor cover.

To adjust to horizontal:

1. Unlock both of the lock bolts.
2. Move the arm to horizontal until it contacts its stop. (See Figure 6.)
3. Tighten both of the lock bolts, and replace arbor cover.

To adjust the arm to any angle between vertical and horizontal:

1. Unlock both of the lock bolts. (See Figure 5.)
2. Use a machinist's protractor and level to set the arm to the required angle.
3. Tighten both of the lock bolts, and replace arbor cover.

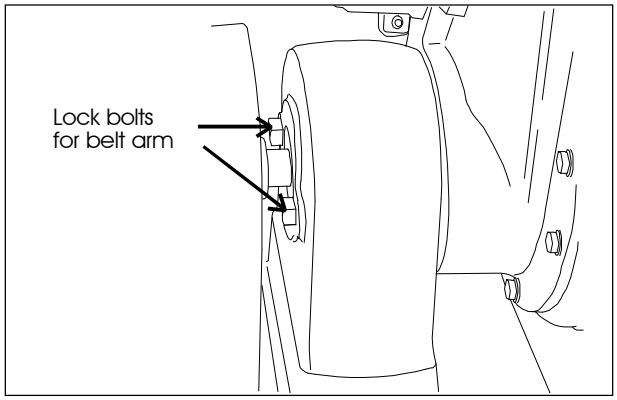


Figure 5: Lock bolts for belt arm

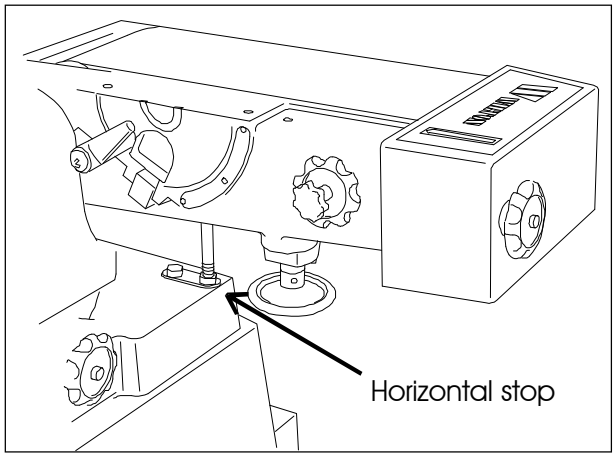


Figure 6: Arm at horizontal

Note that table is removed. Table may be removed or left in position, and may also be set to an angle to allow horizontal grinding of various angles.

Use of the Miter Gauge

The miter gauge can be used to accurately grind angles on workpieces. When using only the gauge you can grind a single angle. By tilting the table and the miter gauge, it is possible to grind compound angles.

When grinding a compound angle you should always check the accuracy of your set-up by grinding a piece of scrap material before doing any finish grinding on the actual workpiece.

1. Set the angle you wish to grind using the scale on the miter gauge.
2. Tighten the miter gauge securely.
3. Place the workpiece against the miter reference surface and slide it along the reference surface and into the grinding belt. The basic method is shown in Figure 7.

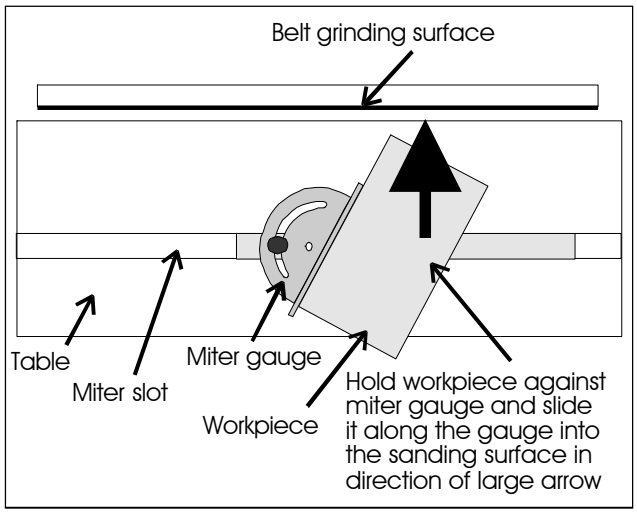


Figure 7: Use of the miter system

Belt Table Miter Slot Parallelism Adjustment

WARNING: DISCONNECT ELECTRICAL POWER TO THE MACHINE BEFORE MAKING ANY ADJUSTMENTS.

1. Disconnect power to the machine.
2. Set the table angle to zero.
3. Place a scale or adjustable machinist's square against either the left or right edge of the belt or platen and measure the distance to the miter slot edge. (Refer to Figure 8.)
4. Move the measuring device to the opposite edge of the belt or platen and measure the distance to the miter slot.
5. Adjust the table by loosening the three attachment screws under the table, then moving the table until the distance between the miter slot and belt or platten is equal, both sides.
6. Tighten the three attachment screws.
7. Reconnect electrical power to the machine.

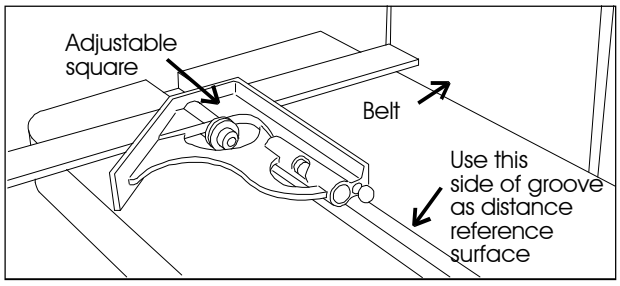


Figure 8: Checking miter slot parallelism

Belt Table Angle Adjustment

1. Loosen the table locking handle and tilt the table upward to about 15 degrees.
2. Flip out the stop bracket. (See Figure 9.)
3. Lower the table until its adjusting screw touches the stop bracket.
4. Place a machinist's square against the table and belt or platen.
5. If adjustment is required, turn the adjusting screw (Figure 8) until the table is exactly square to the platen.
6. Check the pointer. If it is not on zero degrees, loosen the pointer screw and adjust the pointer until it is on zero degrees.
7. Tighten the pointer screw.
8. Loosen the table lock handle and tilt the table until its stop contacts the 45 degree stop position.
9. Using a machinist's protractor set on 135 degrees (90 + 45 degrees) adjust the adjusting screw, if necessary, until the table and platen are in correct adjustment. Do not reset the pointer after this operation.

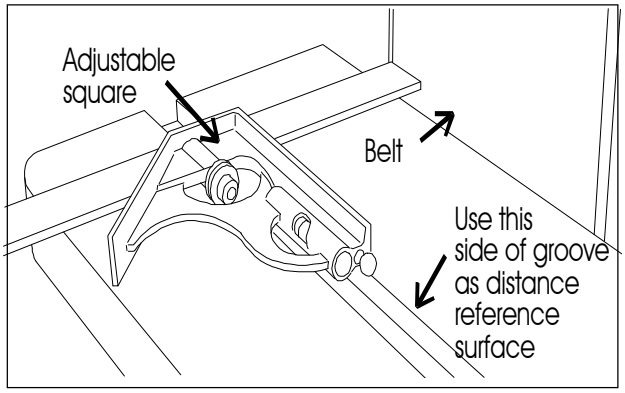


Figure 9: Angle scale and pointer

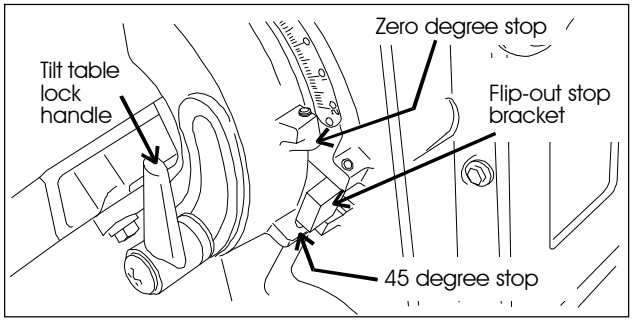


Figure 10: Stop locations

Adjusting or Replacing the Platen

WARNING: DISCONNECT ELECTRICAL POWER TO THE MACHINE BEFORE MAKING ANY ADJUSTMENTS.

1. Disconnect electrical power to the machine.
2. Remove the top cover, side guard and belt. Refer to *Belt Replacement*.
3. Remove the table by removing the locking handle and lifting the complete table assembly from the machine.
4. When replacing the platen, remove the three screws that hold it to its mount. Then install the new platen and install the mounting screws, finger tight.
5. When only adjusting the platen, loosen the three mounting screws to allow adjustment.
6. Using a straight edge as shown in Figure 11, adjust the platen height until it is 1/32-inch higher than the crown of both the drive and idler drums.
7. Tighten the platen adjustment screws.
8. Reinstall the table and belt.
9. Check belt tracking and adjust, if necessary according to instructions in *Belt replacement*.
10. Reinstall the guards and covers that were removed to expose the platen.
11. Check the table angles and miter slot squareness, according to table adjustment instructions. Adjust if necessary.
12. Reconnect electrical power to the machine and check for proper operation.

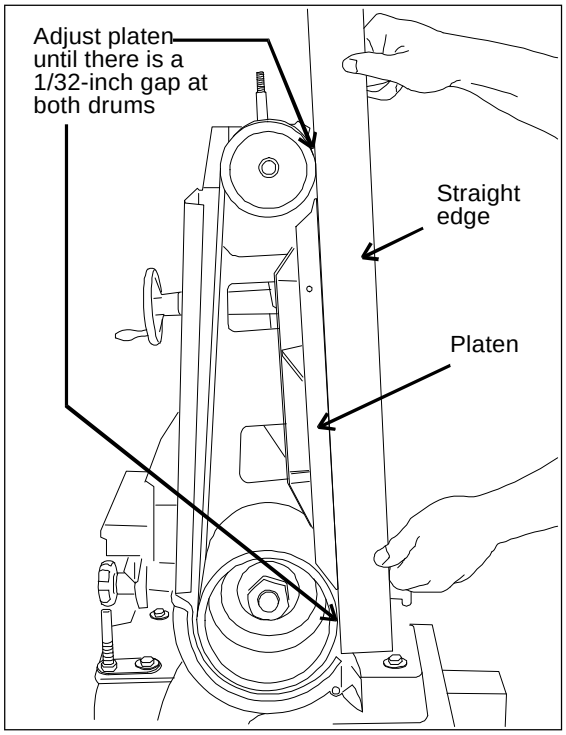


Figure 11: Adjusting height of platen

Edge Mill Operation

1. Start edge milling machine.
2. Place the work piece at the left side of the V-shaped table. Lay the flat side of the work piece against one side of the table.
3. Slowly move the work piece from left to right over the cutter wheel to machine the edge of the work piece.
4. Check the depth and angle of the work piece. If the depth requires adjustment, refer to ***Adjustment of Cutter Wheel Depth***. If the angle of the machined cut requires change, refer to ***Adjustment of Edge Mill Angle***.

Adjustment of Cutter Wheel Depth

The cutting depth of the milling cutter wheel can be changed using the adjustment wheel at the front of the machine.

1. Loosen the clamping knobs at both ends of the edge mill table.
2. Turn the adjustment wheel to the left to lower the milling cutter. Turn the adjustment wheel to the right to raise the milling cutter.
3. Raising the milling cutter will remove more material from the work piece. Conversely, lowering the milling cutter will remove less material from the work piece.
4. The adjustment wheel has 10 lobes on its outer edge. Moving the adjustment wheel from one lobe to the next lobe raises (or lowers) the milling cutter 0.2 millimeters. The graduations are stamped into the face of the wheel in 0.2 millimeters increments starting at 0 millimeter and ending at 1.8 millimeters.
5. After moving the cutter wheel to the desired depth, secure the setting by tightening the table clamps.

Adjustment of Edge Mill Angle

The worktable can be changed to provide machined surfaces from 15 to 45 degrees.

1. Loosen two cap screws at both ends of the worktable. Refer to Figure 12.
2. Move the V-shaped table to the desired angle.
3. Tighten the caps screws to secure the table at the desired angle.

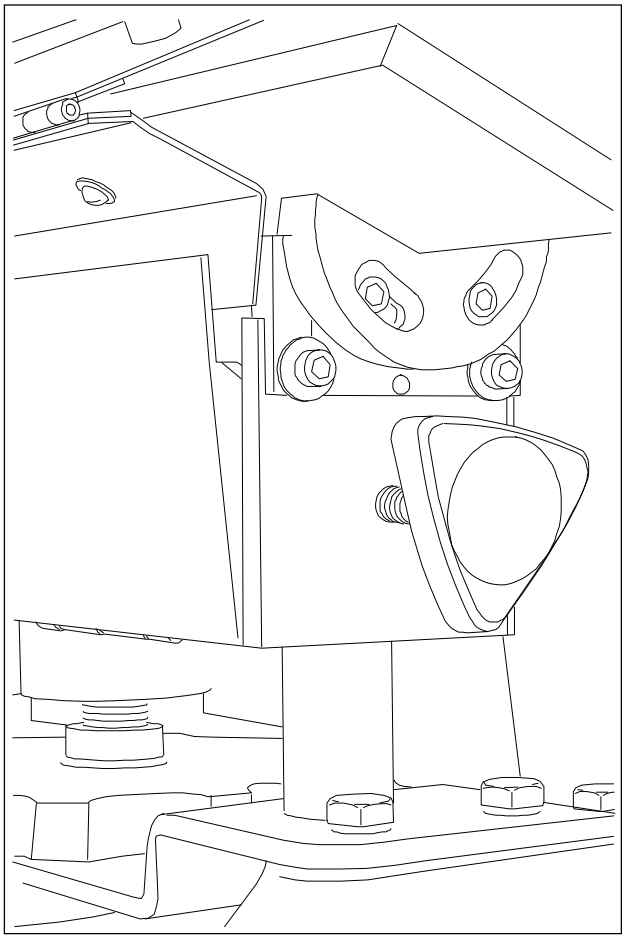


Figure 12: Adjustment of Edge Mill Angle

Maintenance

This section provides maintenance procedures required for the Belt and Edge Milling Machine. The numbers in parentheses throughout the section are reference numbers for parts shown in the exploded views in the **Replacement Parts** section.

Lubrication

The bearings used in the Belt and Edge Milling Machine are sealed, pre-lubricated bearings. The bearings do not require periodic lubrication.

Cleaning

Periodically use a vacuum cleaner to remove sanding debris from the machine. In hard to reach areas, brush the debris loose while vacuuming.

Component Replacement

NOTE: The procedures below describe the replacement of the components on the combination Belt and Edge Milling Machine. The reference numbers in the procedures apply to the combination Belt and Edge Milling Machine. However, the procedures can also be used to replace the belt on the stand-alone Edge Milling Machine shown in **Exploded View – Edge Milling Machine**. When it is necessary to replace parts on the stand-alone machine, refer to the **Parts Listing – Edge Milling Machine** for the correct part numbers.

Replacement of V-Belt

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

1. Disconnect electrical power.
2. Refer to the **Exploded View - Belt and Edge Milling Machine** at the back of the manual. The reference numbers in the procedures correspond with the reference numbers shown on the exploded view.
3. Remove pulley guard (47) by removing four screws (131). (Refer to Figure 13.)
4. Remove screw (89), washer (90), cutter wheel (91), and sleeve (44). Remove key (42) and key (41) from shaft (40).
5. Remove four screws (112), spring washer (54), and washer (53). Remove entire edge mill worktable and its support components from base (51).
6. Refer to the **Exploded View – Base Assembly**.

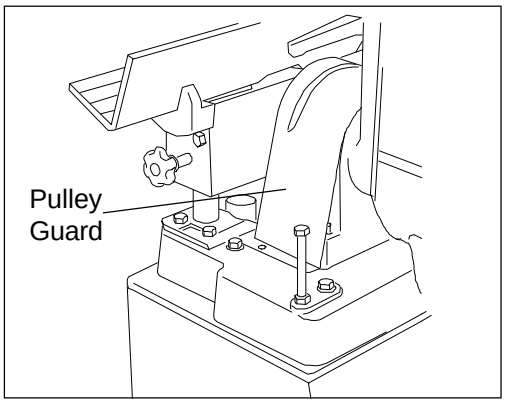


Figure 13: Removing pulley guard

Loosen four screws (11) and remove cover (4) from enclosure (1).
7. Loosen four motor mounting screws (6) enough to enable removal of V-belt (45, **Exploded View – Belt and Edge Milling Machine**).
8. Remove the V-belt from the motor drive pulley (48) and shaft pulley (23).
9. Install replacement belt onto shaft pulley (23). Install belt onto motor drive pulley (48).
10. While applying downward pressure on motor to tighten the belt, tighten four motor mounting screws.
11. Install cover (4) by slipping the slotted tabs on the cover under washers (10) and screws (11). Tighten the screws.
12. Check alignment of pulley (23) and pulley (48). If necessary, loosen set screw (20) and adjust position of pulley (23) on shaft (40) so that the two pulleys are correctly aligned. (Refer to Figure 14.)
13. Install key (41) in key way on shaft (40). Install sleeve (44) over key (41).

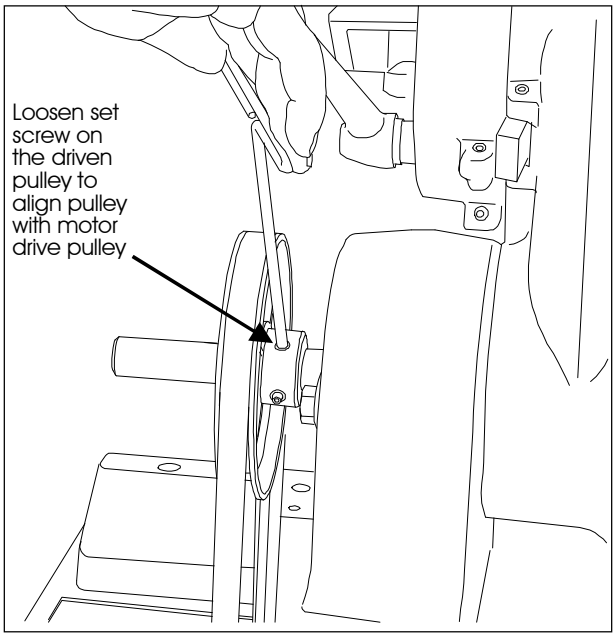


Figure 14: Aligning pulley with motor drive pulley.

14. Install entire edge mill worktable and its support components onto base (51). Secure with four spring washers (54), washers (53), and screws (112).
15. Install key (42) in key way on shaft (40). Install cutter wheel (91) on end of shaft (40) and secure with washer (90) and screw (25).
16. Install pulley guard (47) and secure with screws (131).
17. Connect electrical power.
18. Close cutter wheel cover (98). Start the machine and check for proper operation.

Replacement of Cutter Wheel

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

1. Disconnect electrical power.
2. Refer to the **Exploded View - Belt and Edge Milling Machine** at the back of the manual. The reference numbers in the procedures correspond with the reference numbers shown on the exploded view.
3. Remove screw (89), washer (90), and cutter wheel (91). Remove key (41) from shaft (40).
4. Install key (42) in key way on shaft (40). Install cutter wheel (91) on end of shaft (40) and secure with washer (90) and screw (25).
5. Connect electrical power.
6. Close cutter wheel (98). Start the machine and check for proper operation.

Replacement of Drive Motor

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

1. Refer to the **Exploded View - Sander and Edge Milling Machine** at the back of the manual. The reference numbers in the procedures correspond with the reference numbers shown on the exploded view.
2. Disconnect electrical power.
3. Refer to the **Exploded View – Base Assembly**. Remove four screws (11) and remove cover (4) from enclosure (1).
4. Loosen four motor mounting screws (6) enough to enable removal of V-belt (45, Exploded View – Belt Sander and Edge Milling Machine).
5. Remove the V-belt from the motor drive pulley (48) and shaft pulley (23).
6. Open motor junction box. Tag and disconnect electrical wiring.
7. Remove four screws (6), spring washers (12), washers (7), and nuts (8). Remove motor (132).
8. Loosen set screw (20) in motor drive pulley (48). Remove pulley from motor shaft.
9. Install pulley (48) on shaft of replacement motor (132). Tighten set screw (20).
10. Install replacement motor onto support in machine enclosure. Install four screws (6), spring washers (12), washers (7), and nuts (8). Do not tighten at this time.
11. Push motor upward enough to install replacement belt onto motor drive pulley (48).
12. While applying downward pressure on motor to tighten the belt, tighten four motor mounting screws.
13. Connect electrical wiring and close junction box.
14. Install cover (4) and secure with washers (10) and screws (11). Tighten the screws.
15. Connect electrical power. Start the machine and check for proper operation.

Grinding Belt Replacement

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

1. Disconnect power to the machine to prevent accidental startup.
2. Remove the lock knob and top cover. (See Figure 15.)
3. Remove the side guard and table.
4. Release belt tension by turning tension handle in a counterclockwise direction. (See Figure 16.) If the handle is difficult to turn, refer to *Track Mechanism Maintenance*.
5. Remove belt.
6. Check drums and platen for scoring or signs of wear.
7. Check height of platen with a straight edge. If it is not 1/32 in. above the drums, adjust according to instructions in *Platen replacement or adjustment* in the *Machine set-up* section of this manual. The illustration in Figure 11 shows how to check the platen height.
8. Check drums for looseness. Correct any loose condition by tightening parts or replacing any worn or damaged parts.
9. Slip the new belt onto the drums and platen.
10. Adjust the tension handle clockwise until the belt is flat against the platen and there is no curling or buckling of the belt in the middle.
11. Turn the drums by hand to see if the belt tracks. Always check tracking when replacing a belt.
12. To adjust tracking:
    a. Restore electrical power.
    b. Loosen the tracking lock knob.
    c. Jog the motor on and off as necessary to ob-

serve the tracking. Turn the tracking knob as necessary to make the belt track in the center of the platen and drums. Turn clockwise to move the belt toward the right. Turn counterclockwise to move the belt toward the left.

d. When the belt is tracking correctly, turn the motor on and leave it running while fine tuning the tracking and locking the tracking lock knob.

e. After the lock knob is secured, turn the machine off and disconnect electrical power.

13. Replace the table, side guard, top cover and lock knob.

14. Restore electrical power to the machine.

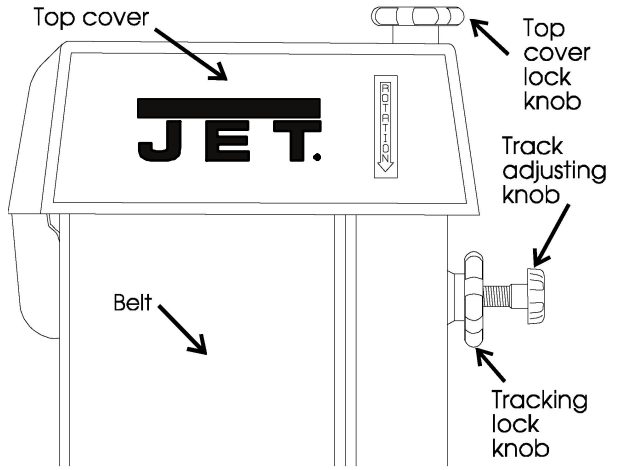


Figure 15: Top cover components

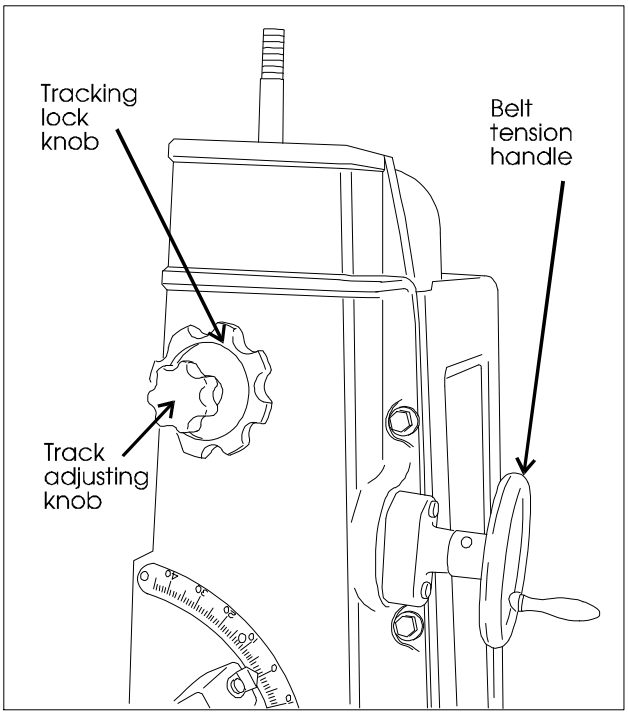


Figure 16: Belt adjustment components (Note: top cover removed for removal and replacement of belt.)

Tracking Mechanism Maintenance

Although a dust collection system can extend machine service intervals, dust will accumulate requiring periodic cleaning of the tracking mechanism. The more the machine is used, the more frequently tracking mechanism maintenance should be performed.

The need for required maintenance is often indicated by difficulty in adjusting the tension/tracking mechanism. Perform as follows:

WARNING: DISCONNECT ELECTRICAL POWER TO THE MACHINE BEFORE MAKING ANY ADJUSTMENTS.

1. Disconnect power.
2. Remove belt (*Refer to Sanding Belt Replacement*) and pull out the upper tracking system. Clean away all built up material in the upper part of the bracket casting.
3. Remove two keys from the idler pin bracket, wipe clean, and regrease.
4. Install removed parts and reinstall the belt (refer to the *Belt Replacement* instructions).

Replacing Inserts

Careful attention must be given to wheel rotation when installing new inserts. The wheel shaft rotates counterclockwise when viewed from the shaft end. Be certain to install the insert such that the cutting edge faces in the direction of rotation (see Figure 17).

Press the insert against the bottom surface of the cavity (Figure 18). Center the insert on the width of the wheel. Tighten the set screw firmly to secure the insert.

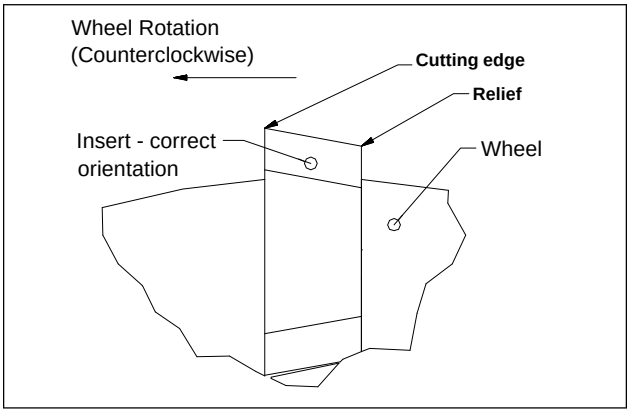


Figure 17: orientation of inserts

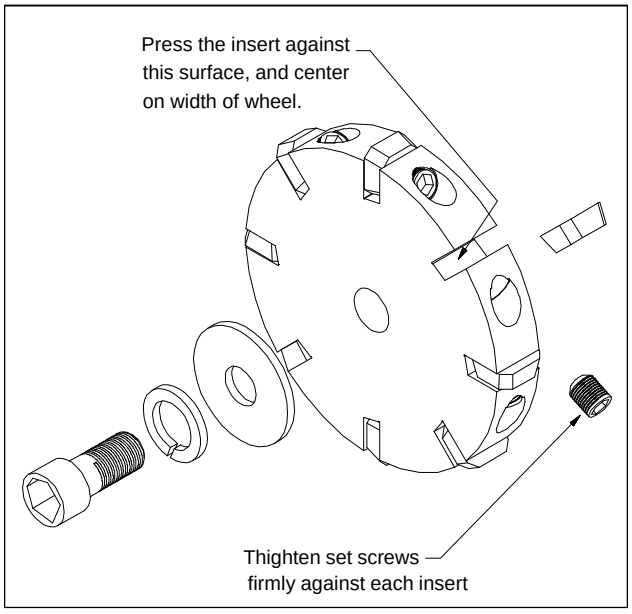


Figure 18: Installation of inserts

Electrical and Wiring Information

CAUTION: All electrical service work should be performed by a qualified, licensed electrician who is familiar with all safe standard electrical installation practices and all applicable electrical codes. This includes local electrical codes which may affect the connection and operation of the machine in your specific manufacturing operation.

JET grinders are available in a wide variety of electrical configurations to meet the needs of the purchaser. Each machine is tested at the factory for operation before shipment and the power cord is tagged with the power requirements for the machine.

Verify the following before attempting any electrical hook-up:
1. Be sure to check the motor plate for information regarding operating voltage and maximum amperage load rating.
2. The electrical characteristics of the service branch matches the requirements of the motor.
3. The service branch is equipped with wires of the required gauge or size.
4. The branch circuit intended for the machine is protected with a time delay fuse or circuit breaker with a rated amperage just slightly greater than the full load current of the motor.

Single-Phase Power Connection

Depending upon the motor type provided, the single phase motor may be connecting to either 115 or 230 volts. Local codes may or may not, permit the use of a plug-type of connection on the machine.

Where a plug connection is permitted, the following installation practices must be followed (refer to Figure 17):
1. The plug used must be a grounding type of plug. On a 115 volt single phase connection, the plug must be a three-prong plug; the plug should have two flat, parallel blades for the power wires and a single rounded or U-shaped prong for the ground connection.
2. On 230 volt single phase connections, the plug must be a three prong plug with two flat blades in tandem to carry the current, and a third round or U-shaped prong for the ground connection.
3. The service branch to which the plug is connected must be a branch with a separate ground wire so the grounding prong of the plug can be effectively connected to ground.

Note: Local electrical codes in many jurisdictions do not allow the use of plug type connections for single phase power when the machine is used in a commercial or industrial establishment. In these cases the service branch should be hard-wired to the service branch junction box.

JET ships the machine without a plug on the power cable with the assumption that the machine will be hard-wired to its service branch.

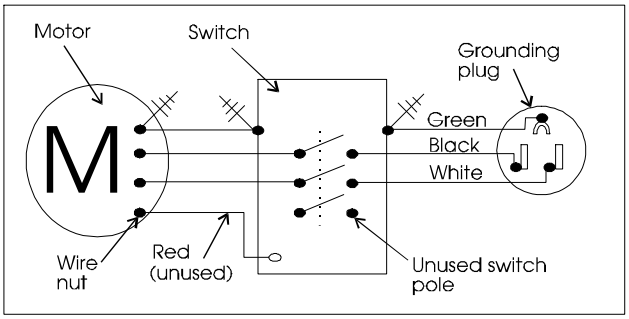


Figure 19: Connections for single phase motor with 4-wire cable.

Three-Phase Power Connection

WARNING: DISCONNECT ELECTRICAL POWER TO THE MACHINE BEFORE PERFORMING THIS PROCEDURE.

1. Disconnect electrical power.
2. Connect the ground wires (refer to Figure 18). These wires will be either green, or green with a white trace.
3. Connect the three remaining cable wires to the three power wires in the service branch.
4. Connect power to the branch.
5. Start the machine. The motor should turn counter-clockwise; the abrasive belt should move downward, and the milling cutter should turn clockwise. If the motor is not turning in the correct direction, proceed as follows:
   a. Disconnect power.
   b. Reverse ANY TWO of the power wires to the machine.
   c. Connect electrical power.
   d. Start the machine. The motor should now be turning in the correct direction.

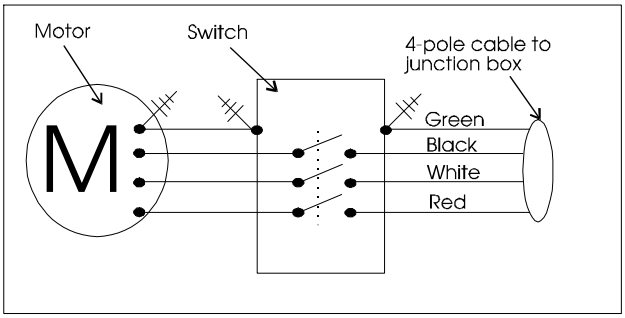


Figure 20: Connections for 3-phase motor.

Circuit Protection

If the service branch is protected with a fuse or circuit breaker that is too high a value to offer protection to the motor, a separate fuse or circuit breaker box should be used. The box should be located at the point where the machine connection is made. The time delay fuse or circuit breaker should be a value just slightly higher than the maximum load current draw as specified on the motor plate on the motor.

Correcting Motor Rotation in Single Phase Motors

JET provides single phase motors in both 115 volt and 230 volt configurations. Several motor manufacturers may be used by JET.

These motors may or may not, rotate in the correct direction (*counter-clockwise)* when connected to a single phase power source.

If the motor runs clockwise when connected to a single phase power source, disconnect the power source, open the junction box and find the correct wiring connections for the motor, or locate the wiring connections required on the motor plate on the outside of the motor.

Different manufacturers provide different wiring configurations for correcting the rotation of the motor armature. Therefore, no wiring diagrams for these motors are provided in this manual. Always consult the motor plate and/or the wiring diagram inside the motor junction box if rotation direction is not correct.

Troubleshooting - Belt Grinder

Fault	Probable cause	Suggested remedy
Motor will not run	1. Motor is defective 2. Voltage is low 3. Switch is defective 4. Branch circuit fuse blown or circuit breaker open 5. Branch shut down for service 6. Open circuit in wiring	1. Replace motor. 2. Check power supply for proper voltage. 3. Replace switch. 4. Determine reason for blown fuse or opened circuit breaker -- then replace fuse or re-set circuit breaker. 5. Check all personnel and machines on the branch to be certain someone has not shut down the branch for service. DO NOT replace fuse or re-set circuit breaker unless you are certain no one is working on machines, wires or controls in the circuit. 6. Inspect all lead terminators for loose or open connections.
Motor stalls easily	1. Low voltage. 2. Fuse is blown (3-phase motors, only.) 3. Improper wiring.	1. Check for proper voltage at motor -- correct as necessary. 2. Replace blown fuse. 3. Check for proper connections.
Abrasive belt or milling cutter slows down, but motor keeps running at working speed	1. Belt slipping	1. Replace belt.
Poor belt tracking	1. Tracking out of adjustment. 2. Too much belt tension. 3. Not enough belt tension. 4. Belt improperly joined. 5. Lack of crown on drive roller. 6. Worn bearings.	1. Adjust belt tracking. 2. Loosen tension until the belt is taut. 3. Tighten tension until belt is more taut. 4. Check the belt for an irregular seam or shape. 5. Remove the belt and put a straight edge along the drive roller. There should be a slight crown (high spot toward the middle of the roller.) If the crown has worn away, replace the roller.
Unsteady belt	1. Slack in abrasive belt.	1. Adjust belt tension.
Short belt life	1. Excessive pressure applied while grinding. 2. Working on only one side of the belt or only in one area of the disc. 3. Incorrect abrasive material or grit size.	1. Allow the belt to do the cutting. Excessive pressure only dulls the grit and removes it from the cloth. 2. Use all surface areas of the abrasive cloth. 3. Check with your abrasives supplier for recommendations on the type and coarseness of the abrasive for the workpieces you are grinding.
CAUTION: For all of the electrical faults and corrections in the above table JET recommends the use of a qualified and licensed electrician for all circuit tracing, diagnosis and repair.		

Troubleshooting - Edge Mill

Fault	Probable Cause	Suggested Remedy
The machined angle is incorrect.	Worktable angle incorrect.	Adjust worktable angle.
The machine is noisy and shakes during operation.	1. Worn, missing or damaged cutter inserts. 2. Damaged cutter head.	1. Replace cutter inserts. 2. Replace cutter head.
Finish too rough.	1. Chamfer depth too great for material being machined. 2. Feed rate too high for the depth and the material being machined.	1. Reduce the depth of cut. Machine another piece and check finish. 2. Feed workpiece at slower rate. Machine another piece and check finish.
Finish is notched or grooved.	1. Cutting edges of inserts damaged. 2. Work table screws not tight on both sides. 3. Chamfer depth too great for thickness of the material.	1. Check condition of cutter inserts. 2. Check for loose table screws and tighten if required. 3. Reduce the depth of cut. Machine another piece and check finish.

Replacement Parts

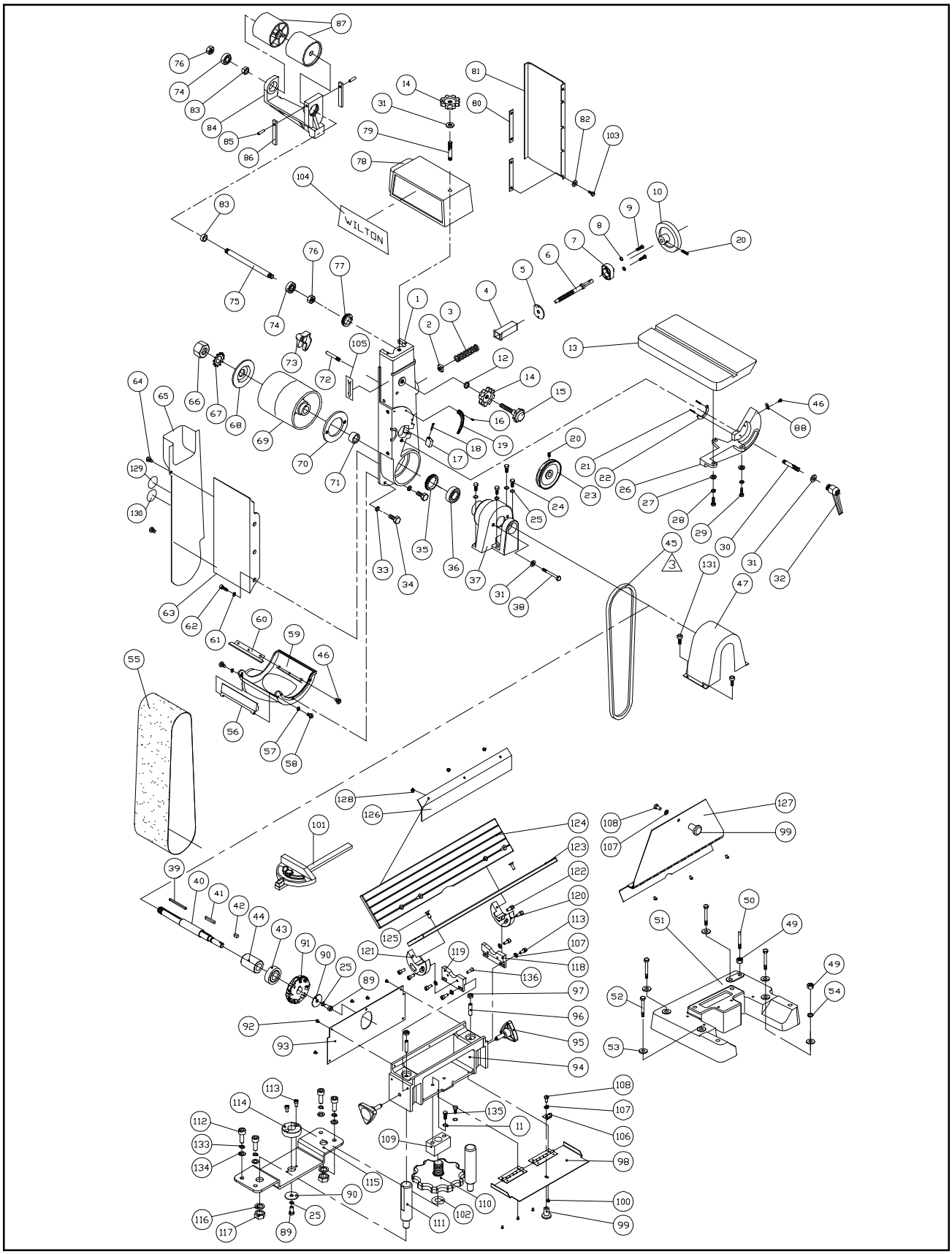
This section provides exploded view illustrations that show the replacement parts for JET Models J-4500 and J-4501 Belt and Edge Milling Machine, and Models J-4505 and J-4506 Edge Milling Machine. Also provided are parts listings that provide part number and description. The item numbers shown on the illustration relate to the item numbers in the facing parts listing.

Order replacement parts from:

WALTER MEIER (Manfacturing) Inc.
427 New Sanford Road
LaVergne, Tennessee 37086
Ph.: 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 – Belt Grinder and Edge Milling Machine (Models 4500, 4501)



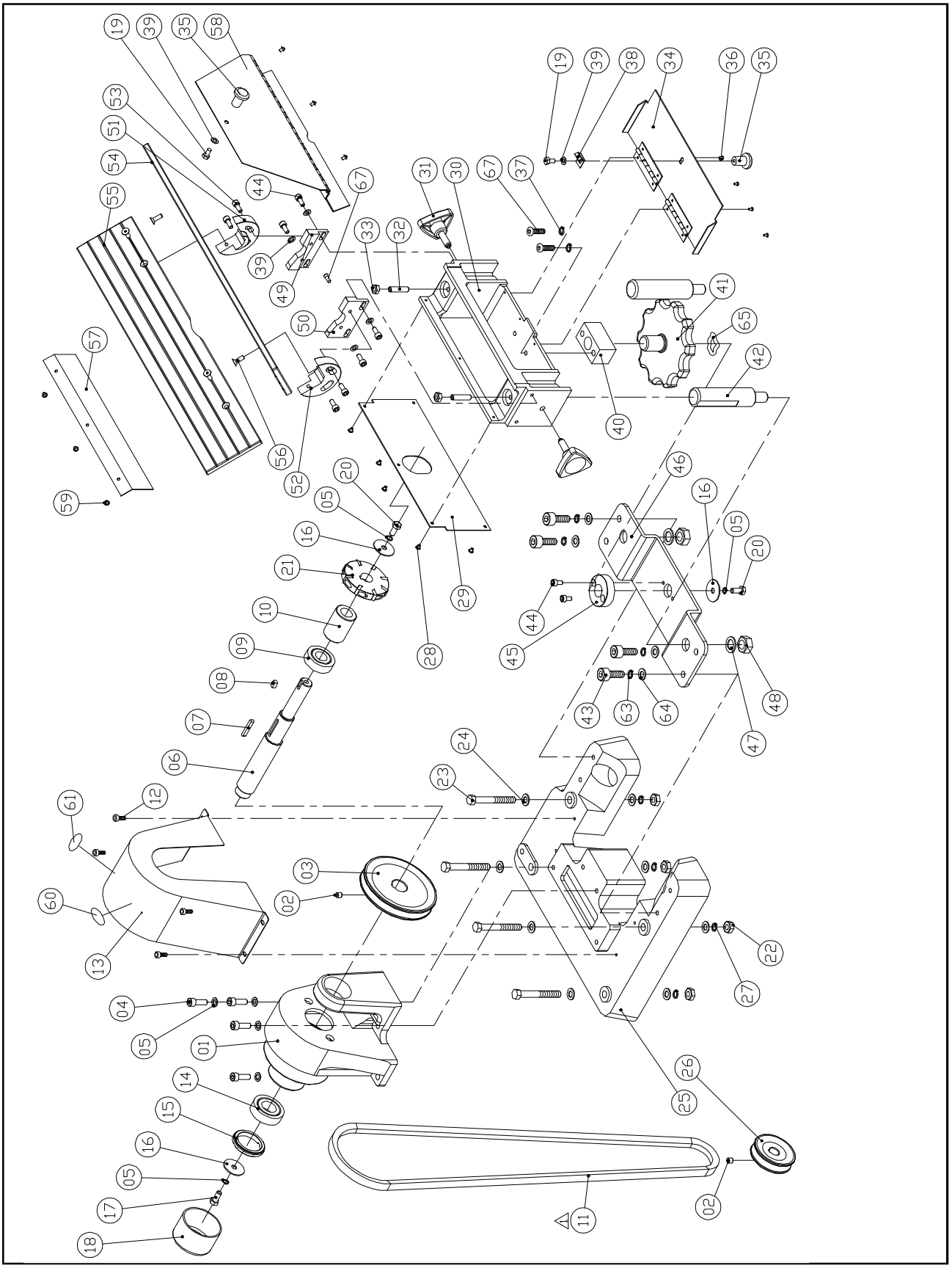
Parts List – Belt Grinder and Edge Milling Machine (Models 4500, 4501)

Ref No.	Part Number	Description	Qty	Ref. No.	Part Number	Description	Qty.
1	J-5508427	Bracket	1	46	5511817	Screw, Pan Hd, (W/Flange) M5X8	4
2	5511833	Square Nut (M10)	1				
3	5051081	Spring	1	47	J-5508444	Guard, Pulley (Assembly)	1
4	5051091	Sleeve	1	---	5512406	Guard, Side	1
5	5051131	Collar	1	---	5512407	Guard, Center	1
6	5508431	Shaft (with Collar)	1	48	5051561	Pulley, Motor	1
7	J-5051151	Cap	1	49	5511831	Nut , Hex, M10	5
8	9058051	Washer, Spring	2	50	5508446	Pin, Stop	1
9	5511819	Screw, Pan Head, M5X25	2	51	J-5512411	Base	1
10	5051721	Wheel, Hand	1	52	5512412	Bolt, Hex, M10X80	4
12	5051911	Washer, M10 Flat	2	53	5507613	Washer, Flat, M10	12
13	J-5508432	Table, Tilting	1	54	5507687	Washer, Spring, M10	8
14	5508450	Hand, Knob	2	55	5051841	Belt, Sanding	1
15	5508429	Knob, Adjusting	1	56	J-5508455	Guard, Deflector Plate	1
16	5511824	Screw, Drive	3	57	9058051	Washer, Spring	2
17	5508437	Block, Stop	1	58	5511836	Screw, Pan Head, M5X12	2
18	5511828	Pin, Groove, 5X45	1	59	J-5508454	Guard, Drive Drum	1
19	5051351	Scale, Tilt	1	60	5508456	Guard, Dust Deflector	1
20	5511822	Screw, Set, M6X6	3	61	9058011	Washer, Spring	3
21	5511827	Pin, Groove	2	62	5640811	Bolt, Hex, M8X20	3
22	5051331	Segment	1	63	J-5508457	Platen	1
23	5511725	Pulley, Arbor	1	64	5511818	Screw, Pan Head, M6X16	1
24	5511829	Screw, Cap, M8X25	6	65	J-5051601A	Guard, Side	1
25	9058011	Washer, Spring	6	66	5511838	Nut, Hex	1
26	J-5508433	Trunnion	1	67	9058121	Washer, External Tooth	1
27	9057391	Washer, Flat	3	68	5051981	Washer/Spacer	1
28	9058011	Washer, Spring	3	69	5051971A	Drum, Drive	1
29	5511830	Bolt, Hex, M8X25	3	70	5508458	Ring, Clamp	1
30	5508435	Stud, M10	1	71	5511728	Spacer, Drive Drum	1
31	5051911	Washer, Flat, M10	4	72	5051031	Pin, Lever	1
32	5508436	Knob, Lock	1	73	5051021	Block, Tension	1
33	9058021	Washer, Spring	3	74	5630821	Bearing (6202 ZZ)	2
34	5511821	Bolt, Hex, M6X16	3	75	5508461	Shaft, Idler Drum	1
35	5508439	Nut, Lock	1	76	5511840	Nut, Nylon, M12	2
36	9100321	Bearing (6205 ZZ)	1	77	5508460	Nut, Bearing lock	1
37	J-5508438	Housing, Bearing	1	78	J-5051591A	Guard, Idler Drum	1
38	5508440	Bolt, Hex, M10X130	2	79	5508462	Stud	1
39	5051421	Key, Square, 5X5X70	1	80	5508463	Bar, Clamp	2
40	5512398	Shaft, Drive	1	81	J-5052121	Guard, Bottom	1
41	5512399	Key, Square, 5X5X35	1	82	9058021	Washer, Spring	4
42	5512400	Key, Square, 6X6X12	1	83	5052061B	Spacer, Idler Drum	2
43	5512401	Bearing (6204 ZZ)	1				
44	5512402	Sleeve	1				
45	5512403	V-Belt, A-60	1				

Parts List – Belt Grinder and Edge Milling Machine (Models 4500, 4501)

Ref No.	Part Number	Description	Qty		Ref. No.	Part Number	Description	Qty.
84	J-5508459	Bracket, Idler Pin	1		112	5512514	Bolt, Hex Head (M10X30)	4
85	5511839	Pin	2		113	5512515	Bolt, Hex Head (M6X12)	6
86	5052001	Block (12X8)	2		114	5512516	Support, Fixed	1
87	5052061A	Drum, Idler (Set)	1		115	5512517	Plate, Concave	1
88	5508434	Pointer	1		116	5512518	Washer, Spring (M16)	2
89	5512447	Bolt, Hex Head (M8X20)	2		117	5512519	Nut (M16)	2
90	5512448	Washer, Flat (M8XØ30)	2		118	5512520	Support, Fixed (Right)	1
91	5512449	Wheel, Cutter(Assembly)	1		119	5512521	Support, Fixed (Left)	1
- - -	5512450	Blade, Cutter	8		120	5512522	Support, Adjustable (Right)	1
- - -	5512451	Screw, Set	8					
92	5512452	Bolt, Pan Head (with flange) (M4X6)	5		121	5512523	Support, Adjustable (Left)	1
93	J-5512453	Cover, Back	1		122	5512524	Bolt, Hex Head (M6X16)	4
94	5512454	Seat, Fixed	1		123	5512525	Plate, Guide (Right)	1
95	5512455	Screw, Knob (M10)	2		124	5512526	Plate, Guide (Left)	1
96	5512456	Screw, Set (M8X25)	2		125	5512527	Bolt, Flat Head (M6X12)	4
97	5512457	Nut (M8)	2		126	J-5512528	Cover, Back	1
98	J-5512458	Cover (Assembly)	1		127	J-5512529	Cover (Assembly)	1
- - -	J-5512459	Cover	1		- - -	J-5512530	Cover	1
- - -	5512500	Hinge	2		- - -	J-5512531	Cover, Front	1
99	5512501	Knob (M6)	2		- - -	J-5512532	Hinge	1
100	5512502	Bolt, Pan Head (M3X6)	4		128	5512533	Bolt, Pan Head (with Flange) (M4X6)	6
101	5512503	Gauge, Miter (Set)	1					
102	5512504	Washer, Spring (M3)	4		129	5512534	Label, Warning	1
103	5512505	Bolt, Hex Head (M6X16)	4		130	5512535	Label, Warning	1
104	5512506	Label, Name	1		131	5511818	PH screw, M6X16	4
105	5512507	Label	1		132	J-9066291	Motor (1.5 HP, 115/230V, Single Phase)	1
106	5512508	Spring, Latch	1					
107	5512509	Washer, Flat	6			J-9066301	Motor (1.5 HP, 230/440V, 3- Phase)	1
108	5512510	Bolt, Hex Head (M6X20)	2					
109	5512511	Support, Adjustment Wheel	1		133	5512538	Key	1
110	5512512	Wheel, Adjustment	1					
111	5512513	Post, Adjustment Guide	2					

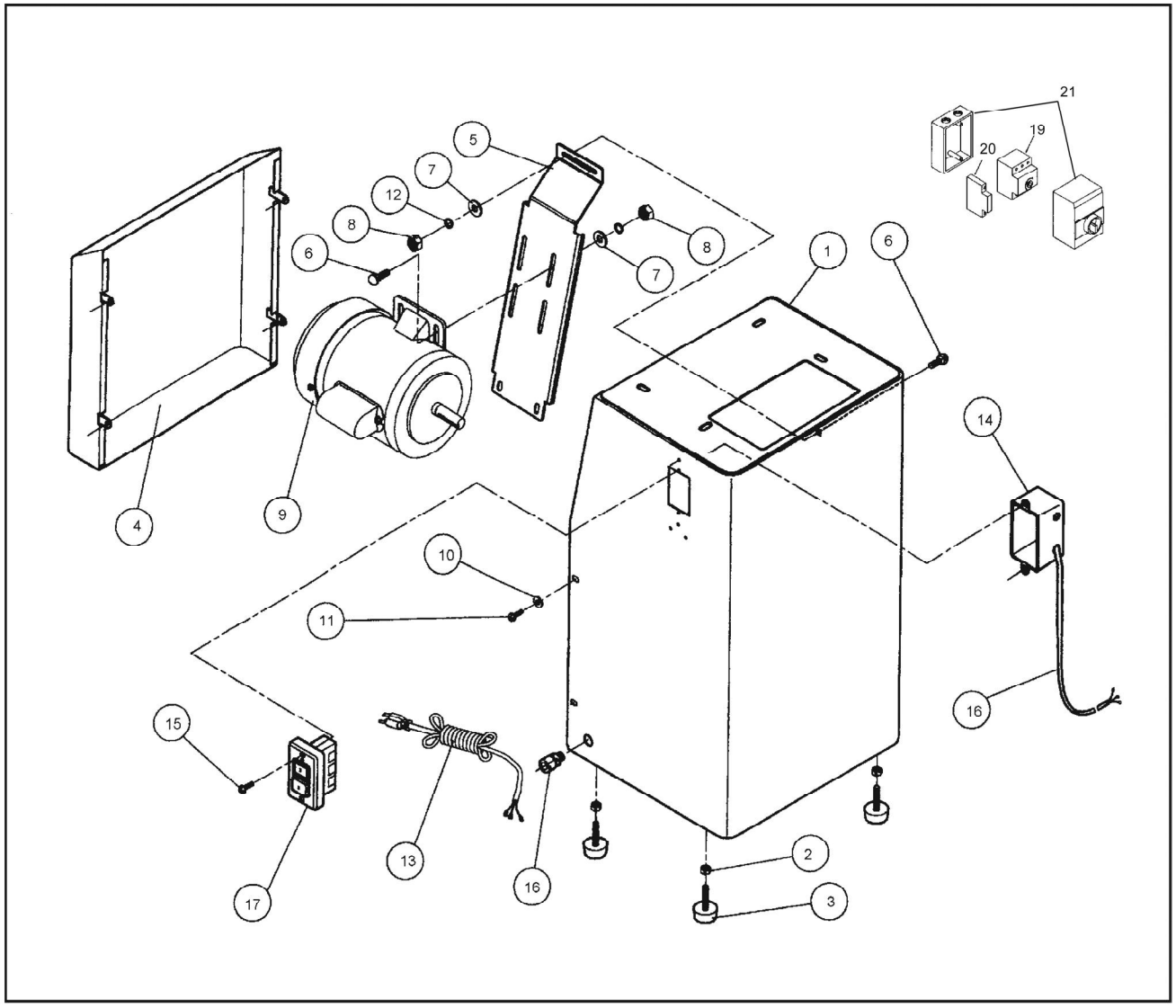
Exploded View – Edge Milling Machine (Models 4505, 4506)



Parts List – Edge Milling Machine (Models 4505, 4506)

Ref No.	Part Number	Description	Qty			Ref. No.	Part Number	Description	Qty.
1	J-4400A-1	Housing, Bearing	1			- - -	5512500	Hinge	2
2	5511822	Screw, Set, M6X6	2			35	5512501	Knob (M6)	2
3	5511725	Pulley, Arbor	1			36	5512502	Bolt, Pan Head (M3X6)	4
4	5511829	Screw, Cap, M8X25	6			37	5512504	Washer, Spring (M3)	4
5	9058011	Washer, Spring	7			38	5512508	Spring, Latch	1
6	5512539	Shaft, Drive	1			39	5512509	Washer, Flat	6
7	5512540	Key (5X5X35)	1			40	5512511	Support, Adjustment Wheel	1
8	5512541	Key (6X6X12)	1						
9	5512401	Bearing (6204ZZ)	1			41	5512512	Wheel, Adjustment	1
10	5512402	Sleeve	1			42	5512513	Post, Adjustment Guide	2
11	5512403	V-Belt (A-60)	1			43	5512514	Bolt, Hex Head (M10X30)	4
12	5511818	Screw, Pan Hd, M6X16	4			44	5512515	Bolt, Hex Head (M6X12)	6
13	J-5508444	Guard, Pulley (Assembly)	1			45	5512516	Support, Fixed	1
						46	5512517	Plate, Concave	1
- - -	5512406	Guard, Side	1			47	5512518	Washer, Spring (M16)	2
- - -	5512407	Guard, Center	1			48	5512519	Nut (M16)	2
14	9100321	Bearing (6205 ZZ)	1			49	5512520	Support, Fixed (Right)	1
15	5508439	Nut, Lock	1			50	5512521	Support, Fixed (Left)	1
16	5512448	Washer, Flat (M8XØ30)	3			51	5512522	Support, Adjustable (Right)	1
17	5512542	Bolt, Hex Head (M8X20)	1						
18	5512543	Cap	1			52	5512523	Support, Adjustable (Left)	1
19	5512510	Bolt, Hex Head (M6X20)	2			53	5512524	Bolt, Hex Head (M6X16)	4
20	5512447	Bolt, Hex Head (M8X20)	2			54	5512525	Plate, Guide (Right)	1
21	5512449	Wheel, Cutter (Assembly)	1			55	5512526	Plate, Guide (Left)	1
						56	5512527	Bolt, Flat Head (M6X12)	4
- - -	5512450	Blade, Cutter	8			57	J-5512528	Cover, Back	1
- - -	5512451	Screw, Set	8			58	J-5512529	Cover (Assembly)	1
22	5511831	Nut, Hex (M10)	5			- - -	J-5512530	Cover	1
23	5512412	Bolt, Hex, M10X80	4			- - -	J-5512531	Cover, Front	1
24	5507613	Washer, Flat, M10	12			- - -	J-5512532	Hinge	1
25	J-5512411	Base	1			59	5512533	Bolt, Pan Head (with Flange) (M4X6)	6
26	5051561	Pulley, Motor	1						
27	5507687	Washer, Spring, M10	8			60	5512534	Label, Warning	1
28	5512452	Bolt, Pan Head (with Flange) (M4X6)	5			61	5512535	Label, Warning	1
						62	5508446	Pin, Stop	1
29	J-5512453	Cover, Back	1						
30	5512454	Seat, Fixed	1						
31	5512455	Screw, Knob (M10)	2						
32	5512456	Screw, Set (M8X25)	2						
33	5512457	Nut (M8)	2						
34	J-5512458	Cover (Assembly)	1						
- - -	J-5512459	Cover	1						

Exploded View – Base Assembly (All Models)



Parts List – Base Assembly (All Models)

Ref No.	Part Number	Description	Qty
1	J-5511743	Enclosure	1
2	5511744	Nut, Hex	4
3	5511745	Mount, Adjustable	4
4	J-5511729	Cover, Large	1
5	J-5052431	Mounting Plate, Motor	1
6	5511746	Screw, Cap, Hex Head	6
7	5511747	Washer	14
8	5511748	Nut, Hex	17
9	J-9066291	Motor (1.5 HP, 115/230V, Single Phase)	1
	J-9066301	Motor (1.5 HP, 230/440V, 3- Phase)	1
10	5511750	Washer	4
11	5511751	Screw	4
12	5511752	Washer, Lock	4
13	9133081	Cord, Power	1
14	9139901	Box, Switch	1
15	5511753	Screw, RH	2
16	5511754	Bushing	1
17	5511755	Cord, Motor	1
18	9139891	Switch	1
19	5510376	Starter, Motor, Manual (220V, 6-10 AMPS)	1
	9150081	Starter, Motor, Manual (440V, 4-6 AMPS)	1
20	5007320	Module, Under Voltage Trip (220VAC, 60 Hz)	1
	5507334	Module, Under Voltage Trip (440VAC, 60 Hz)	1
21	5510037	Box, Switch	1

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 outlet 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.

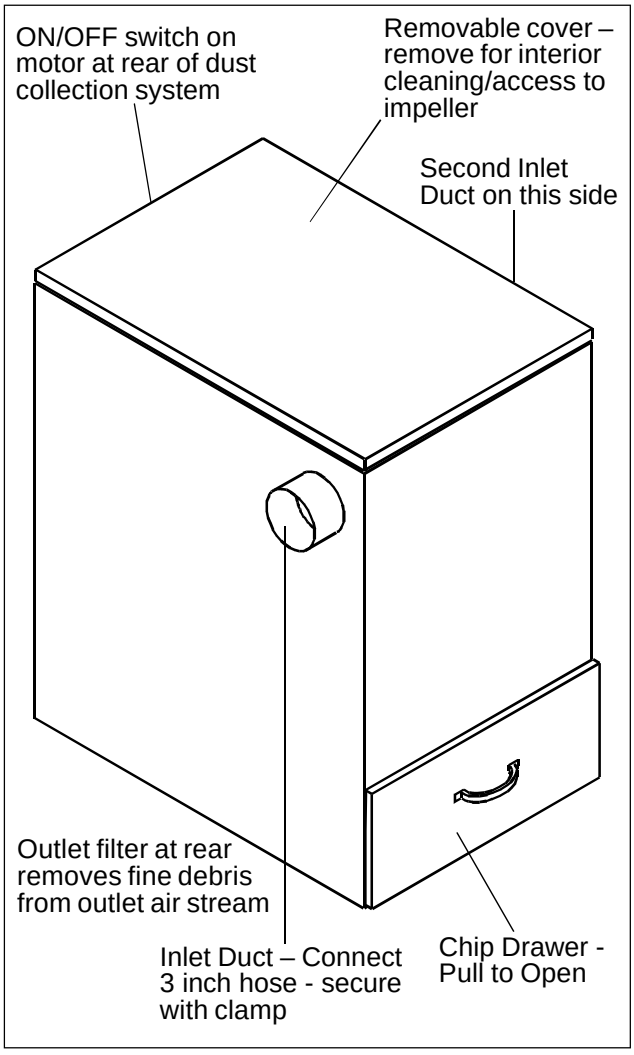


Figure 29: Dust Collector Assembled View

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.

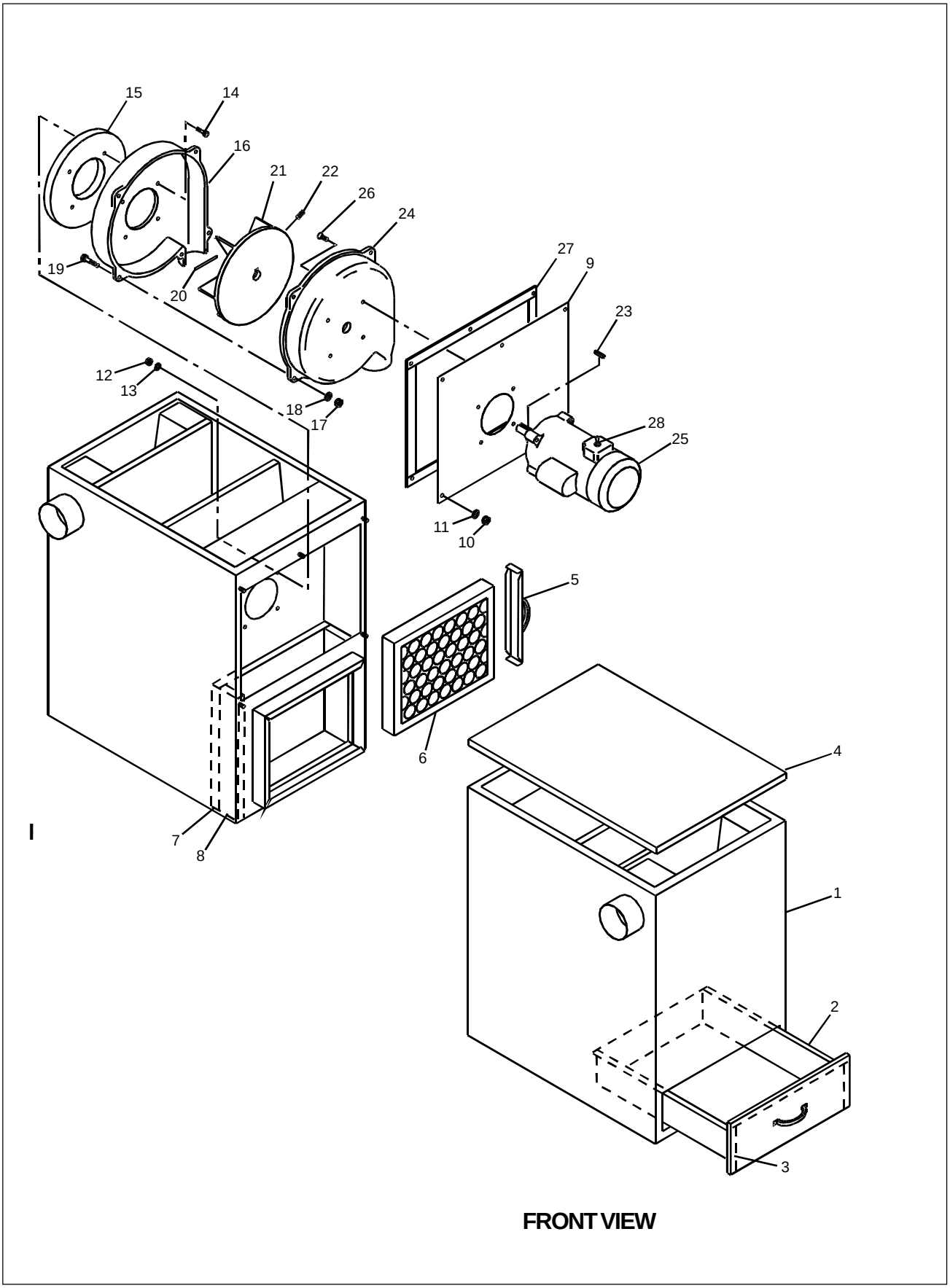
1. Remove chip drawer (2) and cover (4) from base (1).
2. Remove the filter cover (5) and filter (6). Replace filter if required.
3. Remove five nuts (10) and lock washers (11) from studs at rear of base (1).
4. Remove four nuts (12) and lock washers (13) from screws (14). Remove screws (14) from inside 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 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 Listing – Model 5511885 Dust Collection System

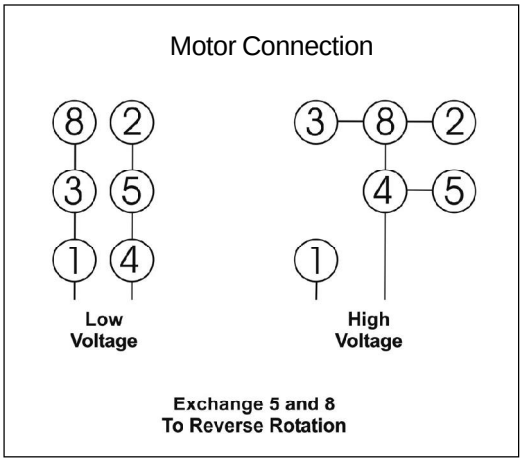
Ref. No.	Part Number	Description	Qty
1	5514731	Base	1
2	5514732	Drawer, Chip	1
3	5514733	Seal, Tape	*AR
4	5514734	Cover	1
5	5514735	Cover, Filter	1
6	5514779	Filter	1
7	5514736	Panel, Rear Foam	1
8	5514737	Panel, Side Foam	2
9	5514738	Panel, Motor Support	1
10	5514739	Nut, Hex	5
11	5514740	Washer, Lock	5
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
19	5514748	Screw, Hex Head	5
20	5514749	Strap, Guard	1
21	5514750	Fan	1
22	5514751	Screw, Set	1
23	5514752	Key	1
24	5514753	Housing, Inner Fan	1
25	5514754	Motor	1
26	5514755	Screw, Hex Head	4
27	5514756	Seal, Tape	*AR
28	5514757	Switch, Motor	1

* Specify length required when ordering.

Optional Accessories:

5511886	Belt & Disc Installation Kit (Cast funnel, Two 5-foot hoses, four clamps)
5511887	Belt-Grinder Installation Kit (One 5-foot hose, two clamps)
5511888	Disc-Grinder Installation Kit (Cast funnel, one 5-foot hose, two clamps)

Wiring Information - Dust Collection System



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