

# ProSeries

by **Wood-Mizer**

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**LTPROCBN-110**  
**LTPROCBN-220**

**rev. B.00**  
**rev. B.00**

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**Safety is our #1 concern!** Read and understand all safety information and instructions before operating, setting up or maintaining this machine.

*January 2008*

*Form #1532*

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## SECTION 1 GENERAL INFORMATION

### 1.1 Safety



This symbol calls your attention to instructions concerning your personal safety. Be sure to observe and follow these instructions. This symbol accompanies a signal word. The word **DANGER** indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. **WARNING** suggests a potentially hazardous situation which, if not avoided, could result in death or serious injury. **CAUTION** refers to potentially hazardous situations which, if not avoided, may result in minor or moderate injury to persons or equipment. Read all safety instructions before operating this equipment and observe all safety warnings!



Warning stripes are placed on areas where a single decal would be insufficient. To avoid serious injury, keep out of the path of any equipment marked with warning stripes.

Read and observe all safety instructions before operating this equipment! Also read any additional manufacturer's manuals and observe any applicable safety instructions including dangers, warnings, and cautions.

Always be sure that all safety decals are clean and readable. Replace all damaged safety decals to prevent personal injury or damage to the equipment. Contact your local distributor, or call your Customer Service Representative to order more decals.



**IMPORTANT!** Always properly dispose of all by-products, including debris, oil, and filters.



**DANGER!** For the user's safety, the power cord on this product has a grounded plug. This power cord should only be used with correctly grounded (3-hole) receptacles to avoid electrical shock. To prevent electrical shock hazard, this unit must be connected to a GFI (Ground Fault Interrupter). The National Electrical Code, Article 680-41(A), requires a GFI be installed in the branch circuit supplying fountain equipment rated above 15 volts. See your local electrical supply dealer for various brands of GFIs.



**DANGER!** Make sure all guards and covers are in place and secured before operating the grinder. Failure to do so may result in serious injury.



**WARNING!** Always turn off and disconnect power before performing any service to the machine.



**WARNING!** Always wear gloves and eye protection when handling bandsaw blades. Changing blades is safest when done by one person! Keep all other persons away from area when coiling, carrying or changing a blade. Failure to do so may result in serious injury.



**WARNING!** Always wear eye protection when operating the grinder. Failure to do so may result in serious injury.

**WARNING!** Only operate this machine in a well-ventilated area. Mist from the grinding oil can be hazardous, especially if operating multiple grinders in an enclosed space. See the grinding oil MSDS sheet for more information.



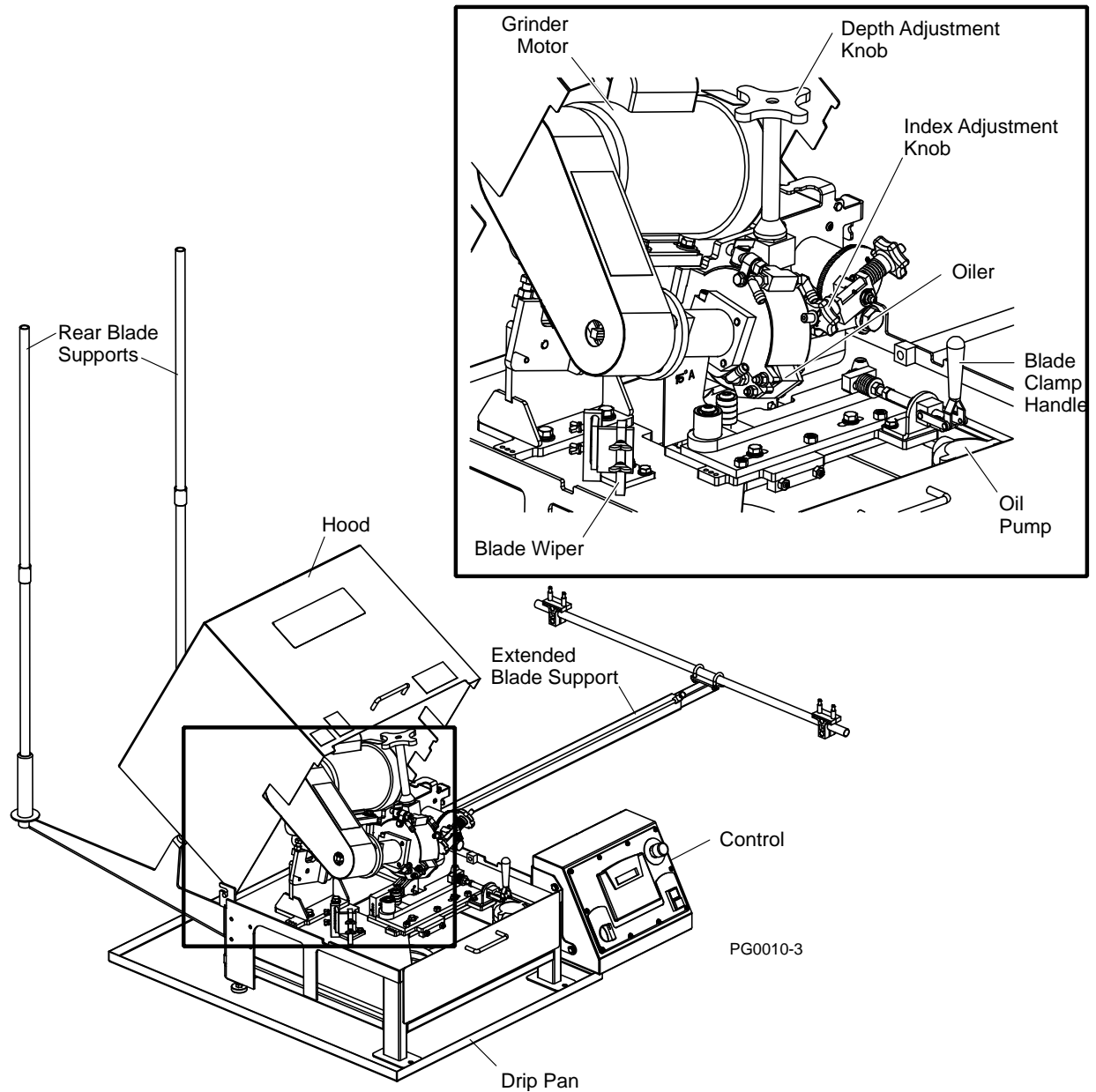
**CAUTION!** Remove the grinding wheel while transporting the grinder to prevent damage due to jarring or bumping of the unit.

**CAUTION!** Do not run the pump until it is under oil. Dry operation will damage the pump!

**CAUTION!** Always turn the grinder off after you have finished sharpening for the day. LEAVING THE POWER ON COULD DAMAGE THE PUMP!

## 1.2 Component ID

See Figure 1-1. Major components of the ProSeries grinder are shown below.



**FIG. 1-1**

### 1.3 Dimensions

See Figure 1-2. Dimensions of the ProSeries grinder are shown below.

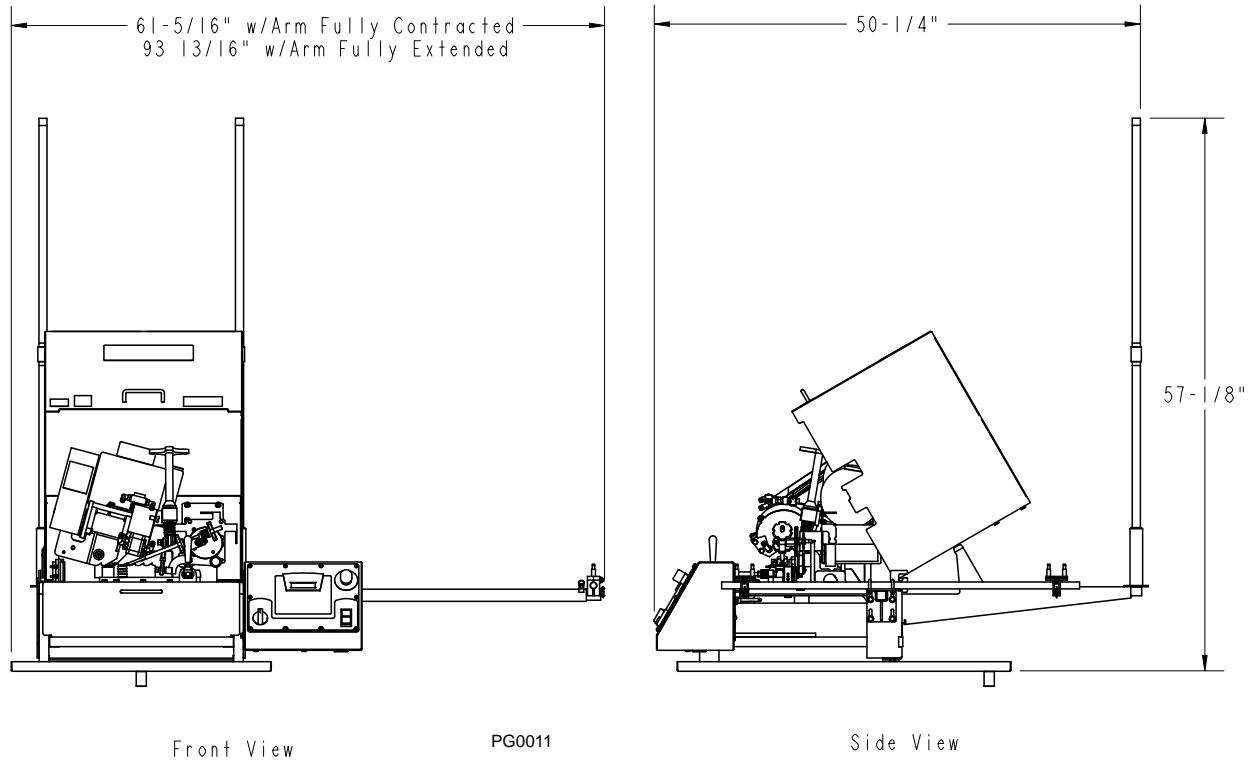


FIG. 1-2

## SECTION 2 SETUP & OPERATION

### 2.1 Assembly

Place the grinder on a table or workbench sturdy enough to support the weight of the machine. Be sure there is enough room on either side of the grinder to allow for the blade to travel.

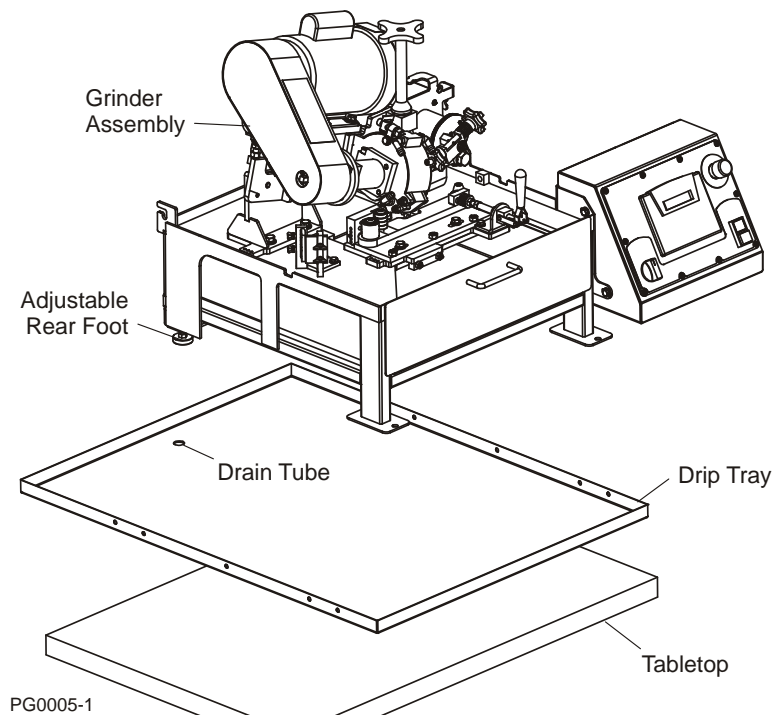
#### *Drip Tray/Grinder*

See Figure 2-1.

Place the drip tray on the table with the drain tube overhanging the rear of the table. Place a container under the drain tube to catch any oil from overspray that collects in the drip tray.

Remove the hood from the grinder assembly and set aside. Place the grinder in position on the drip tray.

Place a level on one side of the grinder base frame and adjust the rear foot until level. Repeat on the other side of the frame.



**FIG. 2-1**

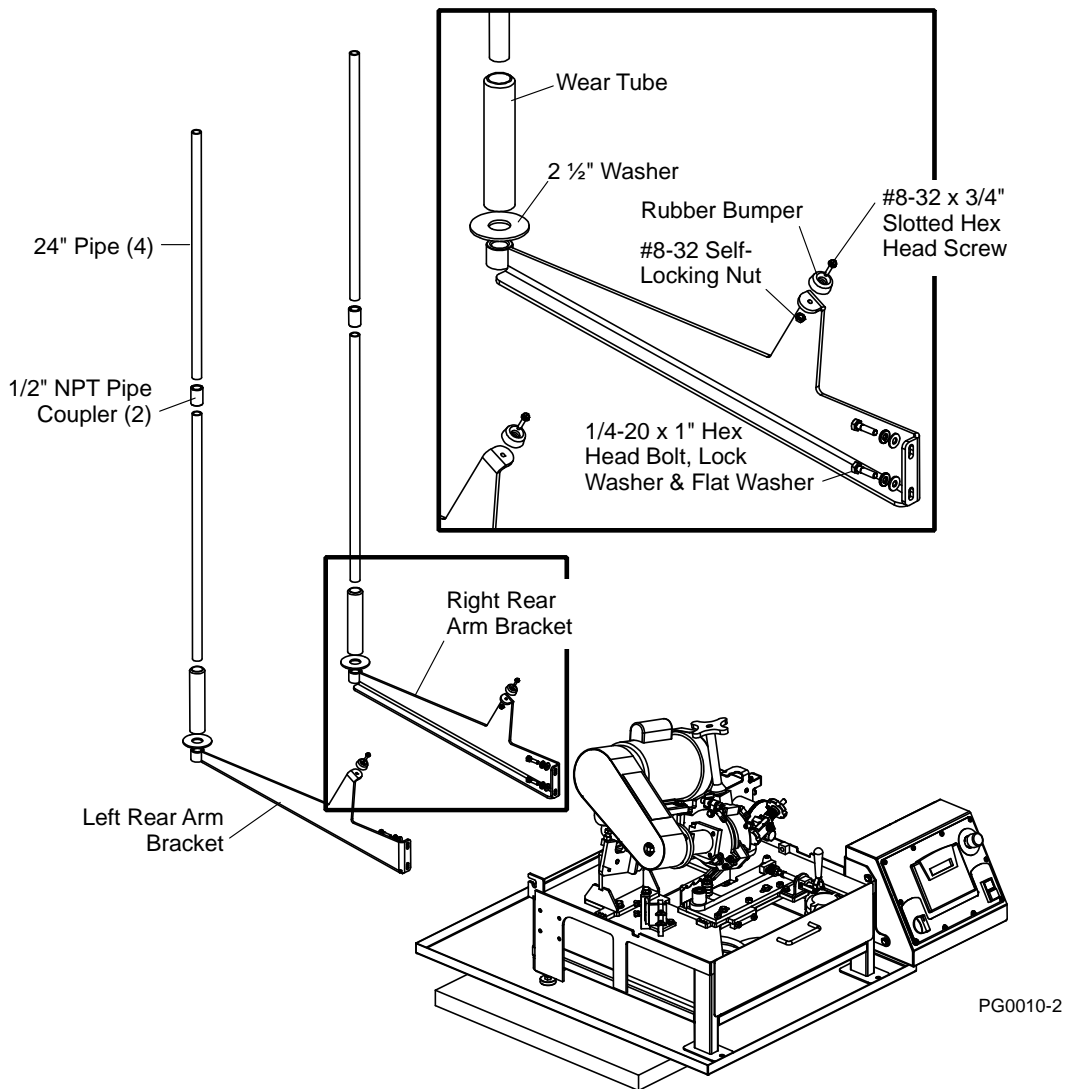


**Blade Support Arms**

**See Figure 2-2.** Install a rubber bumper to each rear arm bracket with a provided #8-32 slotted hex head screw and self-locking hex nut.

Install the left and right arm brackets to the rear of the grinder frame using two 1/4-20 x 1" hex head bolts, lock washers and flat washers per bracket.

Install a wear tube and 2 1/2" washer and thread a 24" pipe into the threaded hole on each rear arm bracket. Install a 1/2" NPT coupler fitting to each pipe and install a second 24" pipe to each coupler.



**FIG. 2-2**

## 2 Setup & Operation

### Assembly

See Figure 2-3.

**NOTE:** If grinding blades shorter than 180", see the next page for blade support tube installation. Use the extended support arm shown below for longer blades.

Bolt the extended support arm to the threaded holes at the back-right of the grinder base with the four 1/4" bolts, lock washers and flat washers provided. Assemble the blade support tube to the support arm, sliding the tube through the U-bolts on the arm.

Install a blade support guide to each end of the blade support tube with two 1/4-20 x 1 1/2" hex head bolts, flat washers, self-locking nut and wing nut. The position of the guides will be adjusted later.

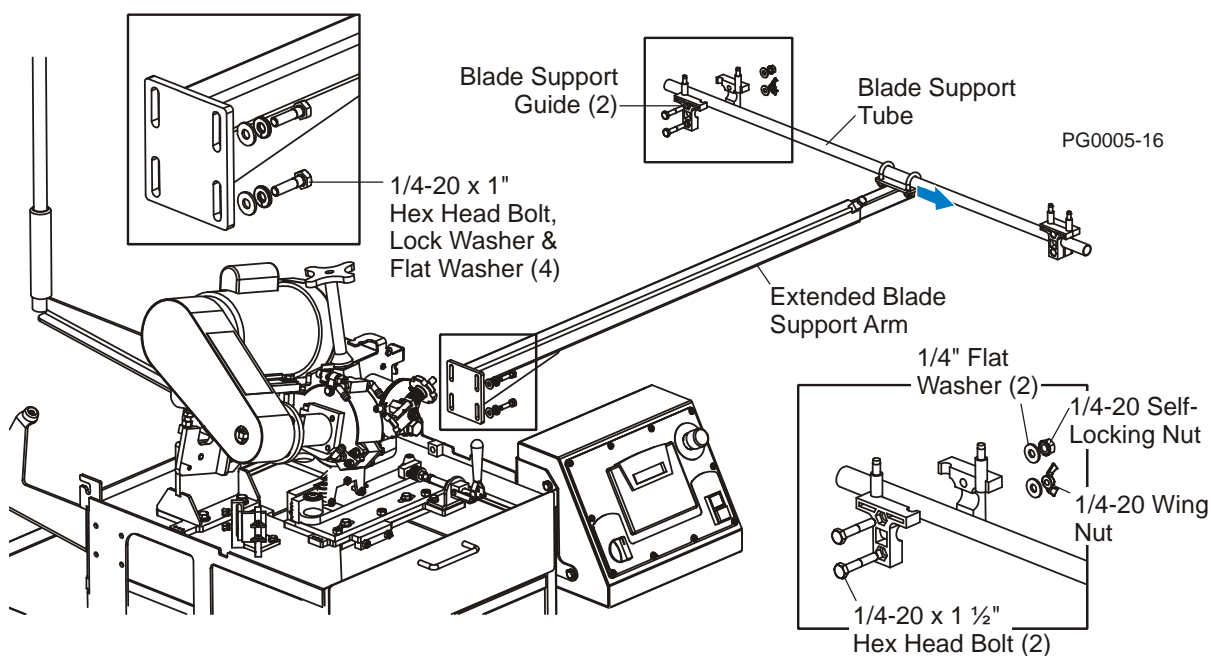


FIG. 2-3

For blades shorter than 180", t

### Grinding Oil Pump

See Figure 2-4.

Remove all loose items from the oil tray. Remove the oil pump from the box and install the provided 1/4" FPT hose barb fitting to the pump outlet.

Place the pump and riser plate in the right-front corner of the oil tray and install the magnets to the side of the riser plate.

Route the pump harness through the hole at the rear of the grinder frame. You will need to temporarily remove the oil hose from the hole to allow the harness connector to fit through the hole. Route the harness to the connector extending from the harness bundle located near the index cam and connect.

Reinstall the oil hose through the hole in the grinder frame and connect to the fitting on the pump.

Fill the oil tray with approved grinding oil available from Wood-Mizer. Fill the tray until the level is at least 1/2" the height of the pump.

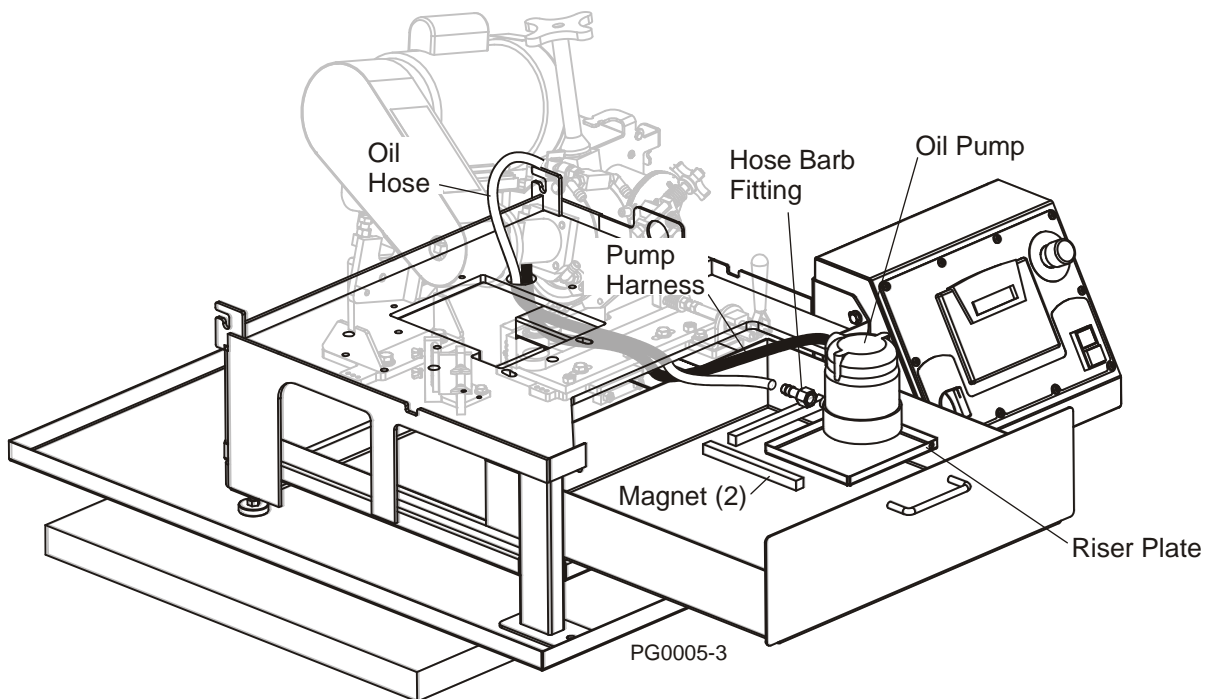


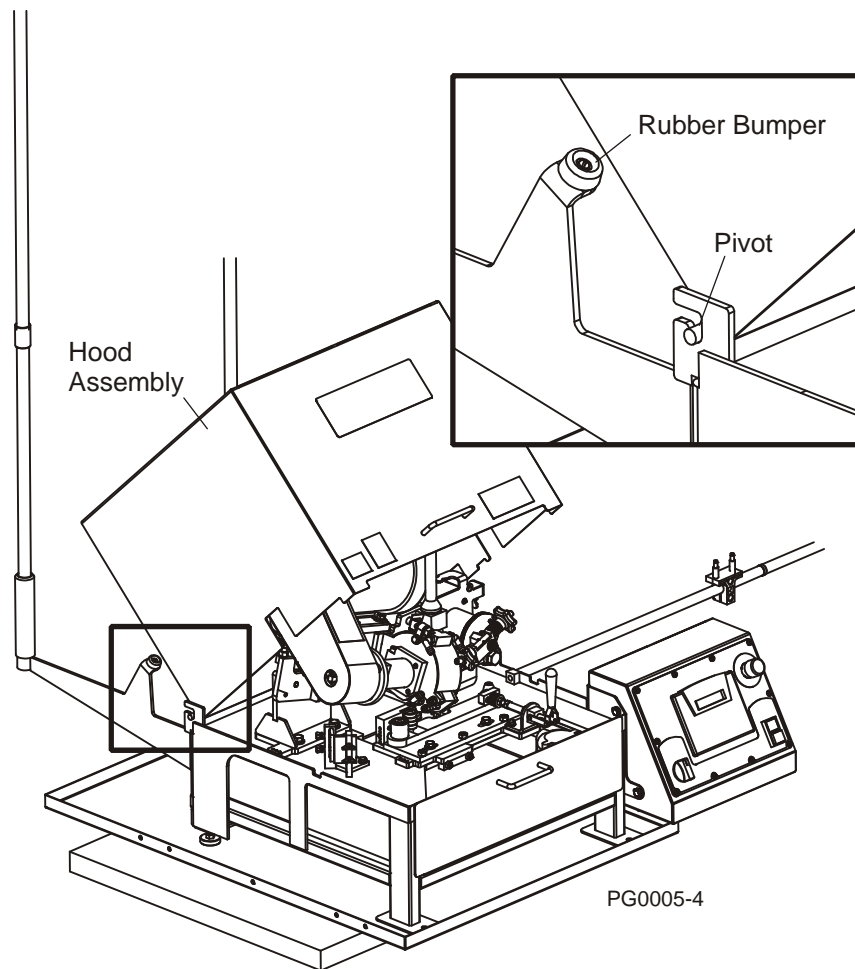
FIG. 2-4

## 2 Setup & Operation

### Assembly

#### Grinder Hood

See **Figure 2-5**. Install the grinder hood to the grinder frame, inserting the pivots into the brackets at the rear of the frame. Open the hood until it rests on the rear arm rubber bumpers.



**FIG. 2-5**

**Blade Clamp Rest Pins**

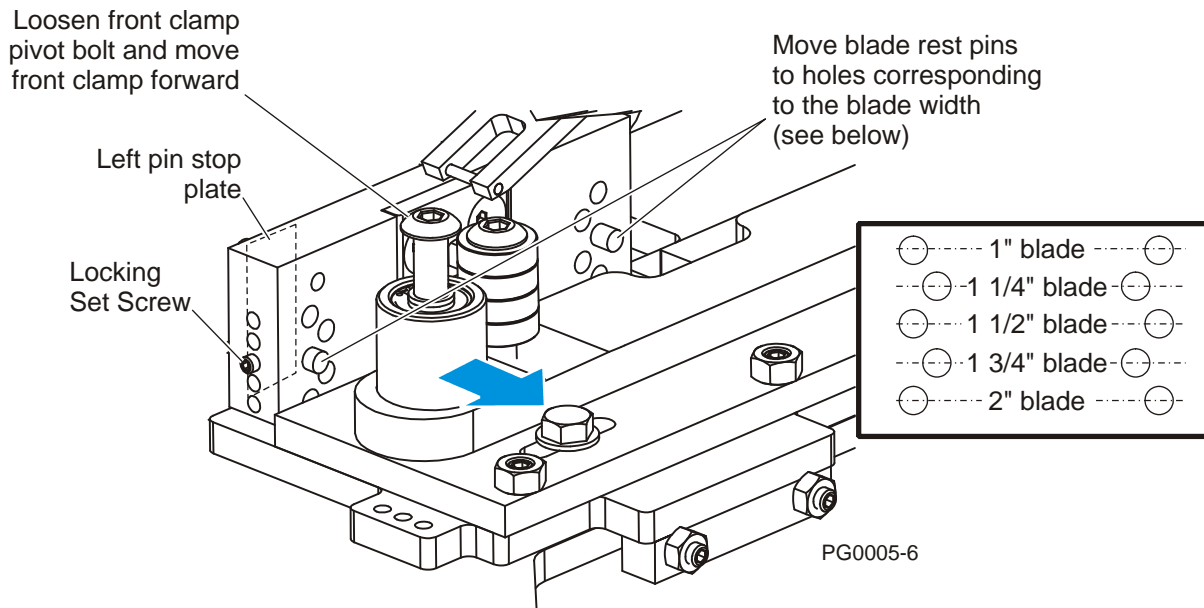
**See Figure 2-6.** When a blade travels through the grinder blade clamp, the blade is supported by rest pins protruding from the rear clamp block.

Five sets of holes are provided for the rest pins to accommodate different blade widths. Use the bottom set of holes for 2" wide blades, the next set up for 1 3/4" wide blades, the next for 1 1/2" wide blades, the next for 1 1/4" wide blades and the top set for 1" wide blades.

To adjust the rest pins, loosen the front clamp pivot bolt to push the front clamp assembly out of the way.

Remove the locking set screws and remove the rest pins from the clamp. Insert the pins into the appropriate hole. The back of the right pin should be flush with the back of the clamp block. Push the left pin back until it contacts the stop plate behind the pin mounting hole. Replace the locking set screws into the corresponding rest pin holes and tighten.

Replace the front clamp assembly and tighten the front clamp pivot bolt.



**FIG. 2-6**

## 2 Setup & Operation

### Assembly

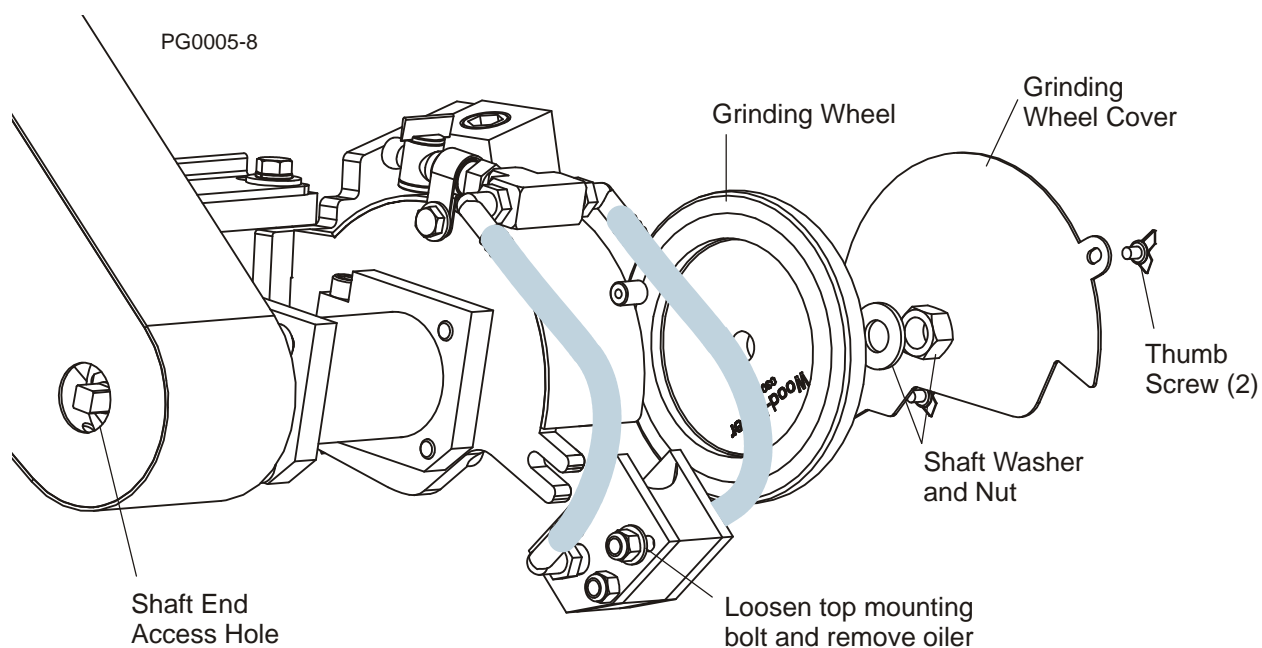
#### Grinding Wheel Installation

See **Figure 2-7**. Remove the grinding wheel cover thumb screws and cover to access the grinding wheel shaft.

Use the provided square socket and a socket wrench to hold the end of the grinding wheel shaft. A hole in the drive belt cover provides access to the end of the shaft.

Unscrew the nut from the grinding wheel shaft and remove the nut and flat washer. Loosen the top oiler mounting bolt to move the oiler out of the way.

Install the appropriate Wood-Mizer grinding wheel for the blades you plan to sharpen. Reinstall the flat washer and nut and hand tighten to secure the grinding wheel.



**FIG. 2-7**

If you will be grinding blades with 1 1/8" tooth spacing, [see Oiler Trough Extension on page 2-8](#) before reinstalling the grinding wheel cover. Otherwise, replace the oiler, grinding wheel cover and thumb screws.



**DANGER!** Make sure all guards and covers are in place and secured before operating the grinder. Failure to do so may result in serious injury.

**Oiler Trough Extension**

The grinder is capable of grinding blades with tooth spacing of 7/8" up to 1 1/8".

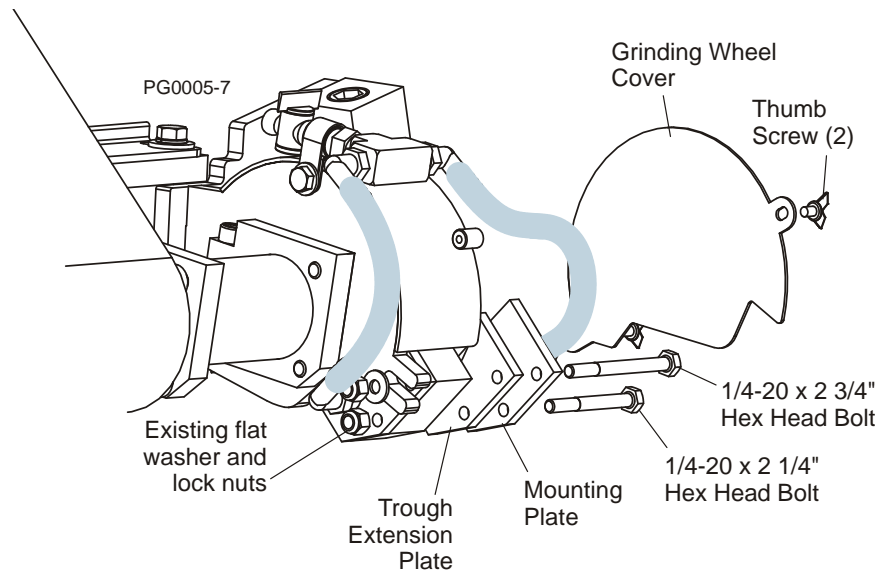
**NOTE:** A special cam is available to accommodate blades with 5/8" tooth spacing. Call Wood-Mizer customer service for more information.

**See Figure 2-8.** To grind blades with 1 1/8" tooth spacing, the oiler trough needs to be extended using the provided spacer plate and longer mounting bolts. To install the spacer plate, remove the grinding wheel cover thumb screws and cover, if necessary.

Remove the existing oil trough mounting bolts and plate. Place the provided extension plate between the existing oil trough and mounting plate. Use the longer 2 3/4" bolt in the top hole and 2 1/4" bolt in the bottom hole to reassemble the trough.

Replace the grinding wheel cover and thumb screws.

**! DANGER!** Make sure all guards and covers are in place and secured before operating the grinder. Failure to do so may result in serious injury.



**FIG. 2-8**

Remove the trough spacer to grind blades with less than 1 1/8" tooth spacing.

### *Electrical Connection*

Plug the power cord from the control box into a grounded 110-120 volt GFI receptacle.



**DANGER!** For the user's safety, the power cord on this product has a grounded plug. This power cord should only be used with correctly grounded (3-hole) receptacles to avoid electrical shock. To prevent electrical shock hazard, this unit must be connected to a GFI (Ground Fault Interrupter). The National Electrical Code, Article 680-41(A), requires a GFI be installed in the branch circuit supplying fountain equipment rated above 15 volts. See your local electrical supply dealer for various brands of GFIs.



**CAUTION!** Do not run the pump until it is under oil. Dry operation will damage the pump!

**NOTE:** The power cord provided is for use with 110V configurations only. If your grinder is 220V, use an adaptor plug or modify the power cord with the appropriate plug to match your 220V receptacle.



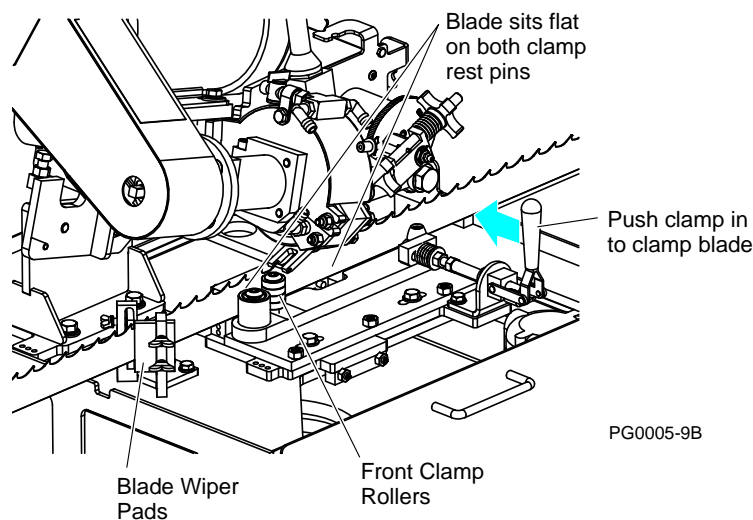
## 2.2 Operation

### Blade Installation



**WARNING!** Always wear gloves and eye protection when handling bandsaw blades. Changing blades is safest when done by one person! Keep all other persons away from area when coiling, carrying or changing a blade. Failure to do so may result in serious injury.

See **Figure 2-9**. Pull the blade clamp lever open. Loop the blade over the grinder against the rear support arms. Lift the grinder head and index arm and place the blade between rear clamp block and front clamp rollers. Position the blade between the blade wiper pads.



**FIG. 2-9**

Push the blade clamp lever closed. Check that the blade is clamped tight. You should not be able to spin the front clamp rollers by hand while the blade is clamped. To adjust the clamp lever, turn the adjustment nut on the threaded clamp rod as necessary. Do not overtighten the clamp. Clamping the blade can cause damage to the blade or the cam index motor. Adjust the clamp just until the rollers do not spin.

## 2 Setup & Operation

### Operation

Loosen the clamping bolt to extend or retract the blade support arm. Slide the support tube through the U-bolts so the guides can be positioned under the blade. Tighten the U-bolts and clamp bolt. Loosen the wing nuts on the blade support guides and adjust so the blade is positioned between the support posts. Tilt the guides slightly forward in the direction the blade travels and retighten the wing nuts.

Make sure the blade support does not lift the blade. The blade should sit flat on the clamp rest pins. Bend the support arm down slightly if necessary to prevent it from lifting the blade.

See Figure 2-10.

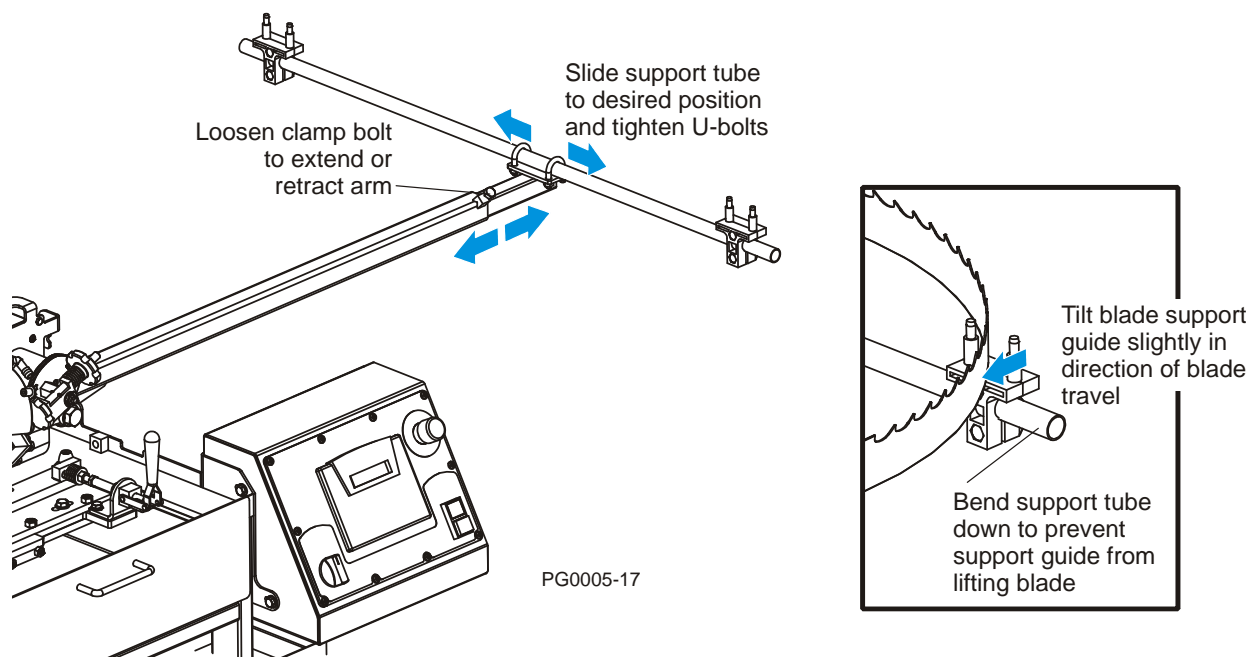


FIG. 2-10

**Grinder Operation (Automatic Mode)**

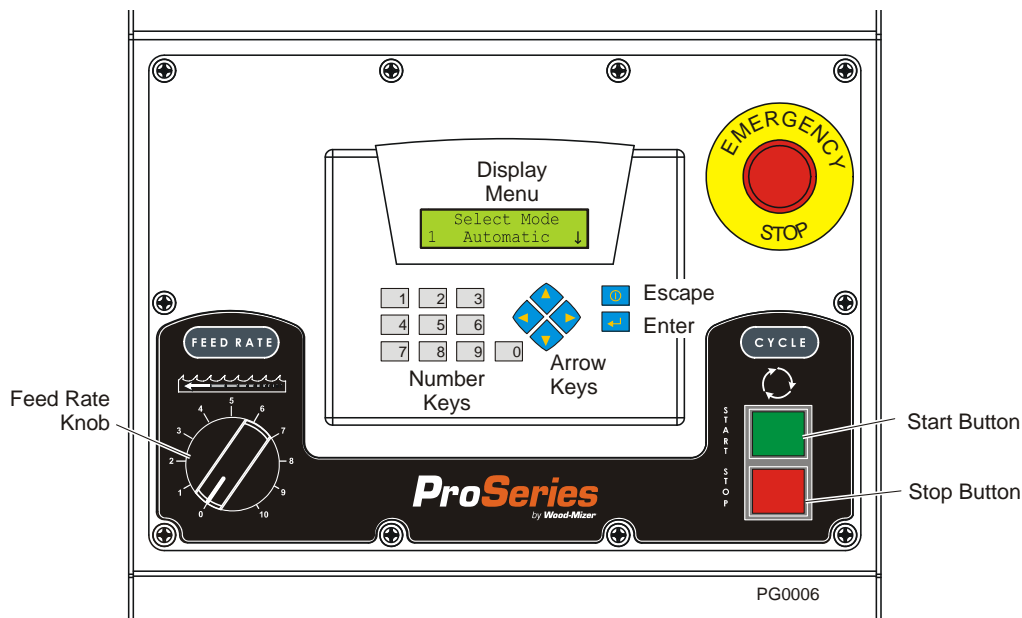


**WARNING!** Always wear eye protection when operating the grinder. Failure to do so may result in serious injury.

**NOTE:** Two modes are available to operate the grinder. For normal conditions, use automatic mode described below to set the grinder up for a cycle and grind the blade. Manual mode may be used to control the grinder functions individually. You may wish to use Manual Mode when troubleshooting problems or if you need to make major setup changes ([See page 2-16](#)).

See **Figure 2-11**. If necessary, pull the red emergency stop knob out to disengage. Be sure the circuit breaker switch on the back of the control box is in the on position. Turn the feed rate knob to zero (0).

After the control display reads “Select Mode”, push the #1 key to enter automatic mode. Alternatively, you can scroll through the mode selections with the up/down arrow keys and press the enter key to select the mode.



**FIG. 2-11**

When you enter automatic mode, the control will prompt “Enter Teeth Quantity”. Enter the desired value from 1 to 999 with the number keys and then press the enter key. If an invalid value is entered, the display will read “Error: Invalid Tooth # Entry”. Press the escape key to return to the tooth quantity entry screen.

## 2 Setup & Operation

### Operation

**See Table 2-1.** The quantity of teeth on any particular blade depends on the length and tooth spacing of the blade. Common blade tooth quantities are provided below.

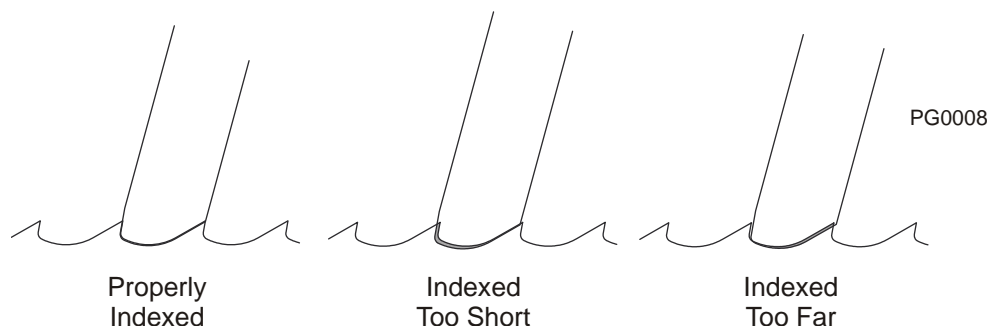
		Tooth Spacing		
		0.656"	0.875"	1.125"
Blade Length	144"	220	165	128
	158"	241	180	140
	178"	272	203	200
	184"	280	210	163
	205"	312	234	182
		No. of Teeth		

**TABLE 2-1**

Once a valid tooth quantity is entered, the control will display "Press Start to Begin Setup". Press the green START button to activate the grinding wheel and cam index motors. Turn the feed rate up to grind a tooth. Turn the feed rate knob to zero (0) and check the grind of tooth.

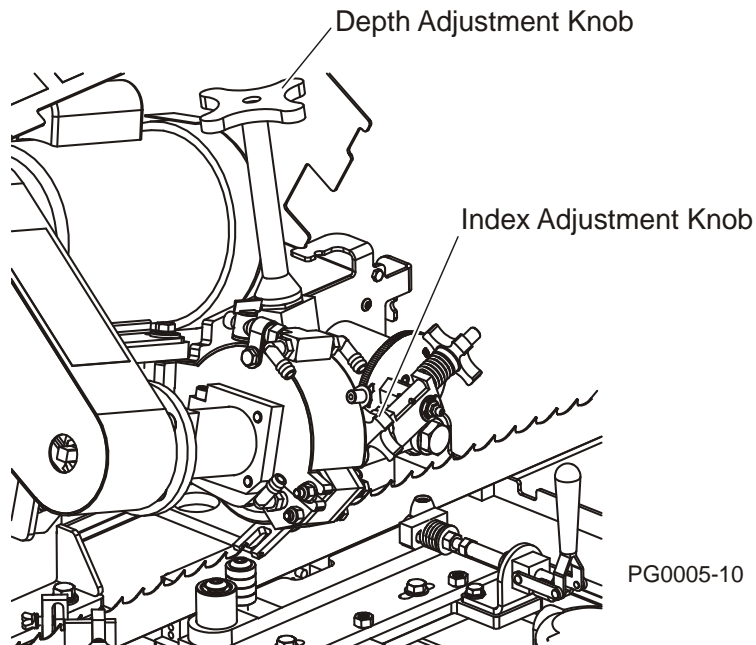
**NOTE:** A bottle of red dye is supplied. Brush the several tooth profiles with dye before grinding. This will assist you in seeing how the grinding wheel is contacting the tooth so you can make the appropriate adjustments.

**See Figure 2-12.** Check the grind of the tooth. The grinding wheel should lightly contact the tooth evenly across the face, gullet and back of next tooth.



**FIG. 2-12**

**See Figure 2-13.** The depth and index adjustment knobs can be used to achieve the proper grind of the tooth. Turn the index adjustment knob in toward the other knob to move the tooth away from the grinding wheel. Turn the index adjustment knob away from the other knob to move the tooth toward the grinding wheel. Turn the depth adjustment knob clockwise to lower the grinding wheel toward the blade. Turn the depth adjustment knob counterclockwise to raise the grinding wheel away from the blade.



**FIG. 2-13**

**NOTE:** The control will remain in this setup mode for two minutes while you make the index/back grind adjustments. If the cycle is not initiated within two minutes, the control will timeout to the mode select menu.

After the index and depth grind adjustments are made, turn the feed rate up to grind the next tooth. Adjust the depth and index grind as necessary using the adjustment knobs until the desired amount of material is removed during grinding.

**NOTE:** If a heavy grind is required, it is best to grind the blade lightly twice than try to remove all the material in one pass.

Once the grinder is adjusted and grinds a tooth as desired, press the START button again to start the cycle. This will start the oil pump and begin counting the quantity of teeth to grind during the cycle. Adjust the oil flow by opening or closing the valve on the grinder head.

# 2

## Setup & Operation

### Operation

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Close the grinder hood and adjust the feed rate to the desired speed. The amount of material being removed will determine the feed rate to be used. If the teeth appear burnt after grinding, slow the feed rate down.

During the grinding cycle, the display will show the number of teeth complete, the feed rate (teeth per minute) and the percentage of the cycle completed.

When the teeth quantity value is reached, the grinder will shut off. If the buzzer is enabled, it will sound for the length of time you designate ([See page 2-18](#)). The control will display the number of teeth processed for the length of time the buzzer sounds.

When the buzzer/display sounds for the designated amount of time, the control will return to the Enter Teeth Quantity menu, showing the value previously entered.

Turn the feed rate knob to zero (0), lift the hood and unclamp the blade. Remove the blade from the grinder and install the next blade.

If the blade has the same tooth quantity as the previous blade, brush several teeth with red dye and push the green START button to return to the automatic mode setup. Make depth and index grind adjustments to insure proper grind across the entire surface of the blade profile. Press the START button again to initiate the next cycle.

If the blade has a different tooth quantity, enter the new value and press the enter key.

Press the escape key to return to the mode selection menu.

Push the red STOP button or the escape key at any time to stop the grinder during a cycle.

Push the Emergency Stop button when done grinding and turn the control off.

### Manual Mode



**WARNING!** Always wear eye protection when operating the grinder. Failure to do so may result in serious injury.

**NOTE:** Two modes are available to operate the grinder. For normal conditions, use automatic mode to set the grinder up for a cycle and grind the blade ([See page 2-12](#)). Manual mode may be used to control the grinder functions individually. You may wish to use Manual Mode when troubleshooting problems or if you need to make major setup changes.

If necessary, pull the red emergency stop knob out to disengage. Be sure the circuit breaker switch on the back of the control box is in the on position. Turn the feed rate knob to zero (0).

When the control displays “Select Mode” push the #2 key to enter manual mode. Alternatively, you can scroll through the mode selections with the up/down arrow keys and push the enter key to select the mode.

After entering manual mode, the display will read “Press Correct Key to Actuate” for three seconds before displaying the manual control screen. Push the enter key to bypass the three second delay and enter manual mode immediately.

Manual mode allows the operator to turn on the grinding wheel motor, cam index motor and/or pump individually as desired. Push the #1, #2 or #3 keys to activate the corresponding function. When the function is on, the box next to the function label on the display will be solid.

Alternatively, you can start the functions by pressing the green START button. Push START once to start the oil pump, a second time to start the cam index motor and a third time to start the grinding motor.

Push the red STOP button to turn all functions off.

Push the escape key to return to the mode select menu.

### *Diagnostics Mode*

The diagnostics mode is provided to allow the operator to check the input status of the index sensor, the grinder motor thermostats and the start/stop buttons. From the mode selection menu, press the #3 key or scroll to the Select Mode Diagnostics menu and press the enter key. Scroll to the desired function and press the enter key or press the corresponding number key. The control will timeout back to the mode selection menu after one minute of inactivity. The three functions available in diagnostics mode are:

1. **Index Sensor:** A proximity sensor located behind the index cam detects the position of the cam to allow the control to count revolutions of the cam. Operate the index motor to rotate the cam so it is positioned over the sensor. The sensor is equipped with a light that should come on when it senses the cam. Enter diagnostic mode as described and select the Index Sensor menu. The status should display as ON. Press the escape key to exit the menu.
2. **Grind T-Stat:** Under normal operating conditions, the status of the grinder motor thermostats is ON. If the status is OFF, there is a problem with the motor or wiring and the grinder motor will not run. Press the escape key to exit the menu.
3. **Start/Stop:** The status is always OFF unless the corresponding button on the control is pressed. Press the escape key to exit the menu.



### Setup Mode

In setup mode, the user can adjust how the grinder functions. From the mode selection menu, press the #4 key or scroll to the Select Mode Setup menu and press the enter key. Scroll to the desired function and press the enter key or press the corresponding number key. The control will timeout back to the mode selection menu after one minute of inactivity. The six functions available in setup mode are:

1. **Backlight:** By default, the backlight is ON. Press the down arrow key to turn the backlight OFF. If the backlight is OFF, press the up arrow key to turn it ON.
2. **Idx Fault Adj:** The control measures the amount of current drawn by the cam index motor. If the number of over-current pulses exceeds the set value in the allotted amount of time, an error will occur. The value for this setting can be set between 10-95. The default value is set at the maximum 95 at the factory and should not normally need to be adjusted.
3. **Idx Timer Adj:** This value controls the allowable time for the index cam motor to make one revolution. The control will display the current time setting and the new time setting entered with the number keys (range between 1 - 59). This value is set at 45 at the factory and should not normally need to be adjusted.
4. **Statistics:** The menu first displays the message "Last Blade Statistics" for 1.5 seconds unless bypassed by pushing the enter key. The control then displays the feed rate (teeth per minute) and the total number of teeth of the last blade processed.
5. **Buzz Time Adj:** This value controls the amount of time in seconds the buzzer will sound when a grinding cycle is complete. The value entered can be between 0 and 59 seconds and set to 3 seconds at the factory.
6. **Buzzer On/Off:** By default, the buzzer is ON. Press the down arrow key to turn the buzzer OFF. If the buzzer is OFF, press the up arrow key to turn it ON.

The control will timeout and return to the setup select menu after 30 seconds of inactivity in any of the above menus. To exit a menu without adjusting the value, press the escape key. To save a new value and exit, press the enter key.

## SECTION 3 MAINTENANCE & ALIGNMENT

### 3.1 Maintenance



**WARNING!** Always turn off and disconnect power before performing any service to the machine.

#### *Grinding Wheel Replacement*

Check the grinding wheel often and change as necessary. Wheels approved for use with the grinder are available from Wood-Mizer.

The grinding wheel should be in good condition. Replace if worn, the edges look shiny, and/or the wheel is "burning" the blades.

[See Page 2-7](#) for grinding wheel installation instructions.

#### *Oil Level*

Periodically check the oil level and refill with oil as necessary. The oil level should be at least half the pump height. Use only Wood-Mizer approved grinding oil.

Filter the oil to remove metal shavings before reusing.

#### *Clean Grinder*

Clean metal shavings and oil overspray from the grinder and area surrounding after each day of operation. Remove metal shavings from the oil tray magnets as needed. Pay particularly close attention to the moving parts of the grinder to ensure metal shavings do not accumulate and interfere with grinder operation.

See Figure 3-1.

#### **Lubricate Index Cam Pivot**

A grease fitting is provided on the index cam pivot. Apply one to two squeezes of NLGI #2 lithium grease weekly to keep the index arm threads lubricated.

#### **Blade Wipers**

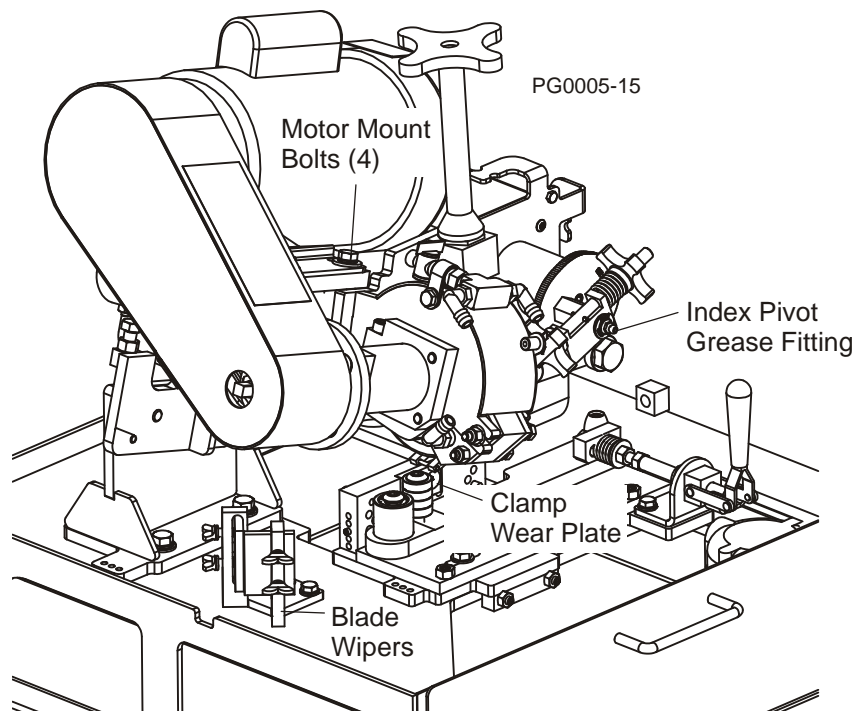
Loosen the blade wiper thumb screws and adjust the pads so they wipe oil from the blade as it passes through the pads.

#### **Blade Clamp Wear Plate**

Inspect the wear plate periodically for damage or excessive wear and replace as necessary. The plate should keep the blade from contacting the back clamp block.

#### **Drive Belt Tension**

If the drive belt begins to slip, tension the belt. Loosen the four motor mount bolts and pry the motor back to tighten the belt. Retighten the motor mount bolts. When maximum adjustment is reached, replace the belt.



**FIG. 3-1**

## 3.2 Alignment



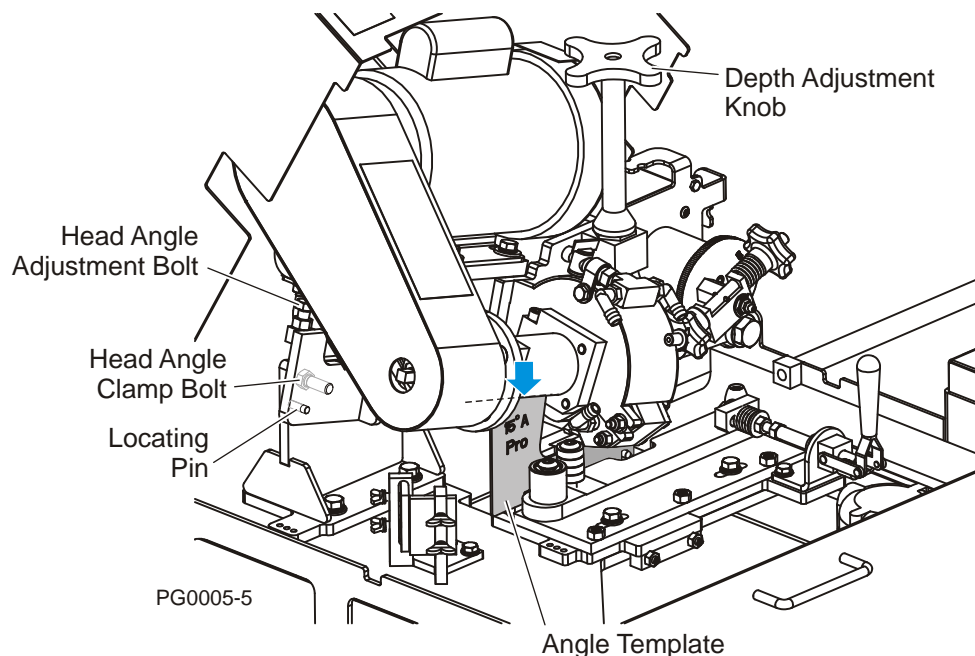
**WARNING!** Always turn off and disconnect power before performing any service to the machine.

### Grinder Head Angle

**NOTE:** The grinder head angle is set and pinned at the factory and should not need adjusted unless the grinder is damaged or major components replaced. If adjustment is necessary, remove the pin, adjust then drill a new hole and repin the assembly.

**See Figure 3-2.** The grinder head should be set at 15°. To check, install the provided head angle template to the blade clamp fixture with the notches positioned around the blade rest pins. Loosen the depth adjustment knob until the grinder head rests on the template.

If the grinder head does not sit flat against the template, remove the locating pin and loosen the head angle clamp bolt. Loosen the jam nut and turn the head angle adjustment bolt to pivot the head until it rests flat against the template. Retighten the jam nut and clamp bolt, drill a new hole if necessary and reinstall the pin. Remove the template from the clamp fixture.



**FIG. 3-2**

### Blade Clamp Position

**NOTE:** The grinder/clamp position is set and pinned at the factory and should not need adjusted unless the grinder is damaged or major components replaced. If adjustment is necessary, remove the pins, adjust then drill a new hole and repin the assembly.

**See Figure 3-3.** Remove the grinding wheel cover thumb screws and cover to access the grinding wheel shaft.

Use the provided square socket and a socket wrench to hold the end of the grinding wheel shaft. A hole in the drive belt cover provides access to the end of the shaft.

Loosen the top oiler mounting bolt to move the oiler out of the way. Unscrew the nut from the grinding wheel shaft and remove the nut, flat washer and grinding wheel.

Remove the front clamp pivot bolt and the two clamp handle mounting bolts to completely remove the front clamp from the grinder. Loosen the blade rest pin locking set screws and push the pins back (pivot the left pin stop plate out of the way). Disassemble the clamp wear block from the back clamp plate.

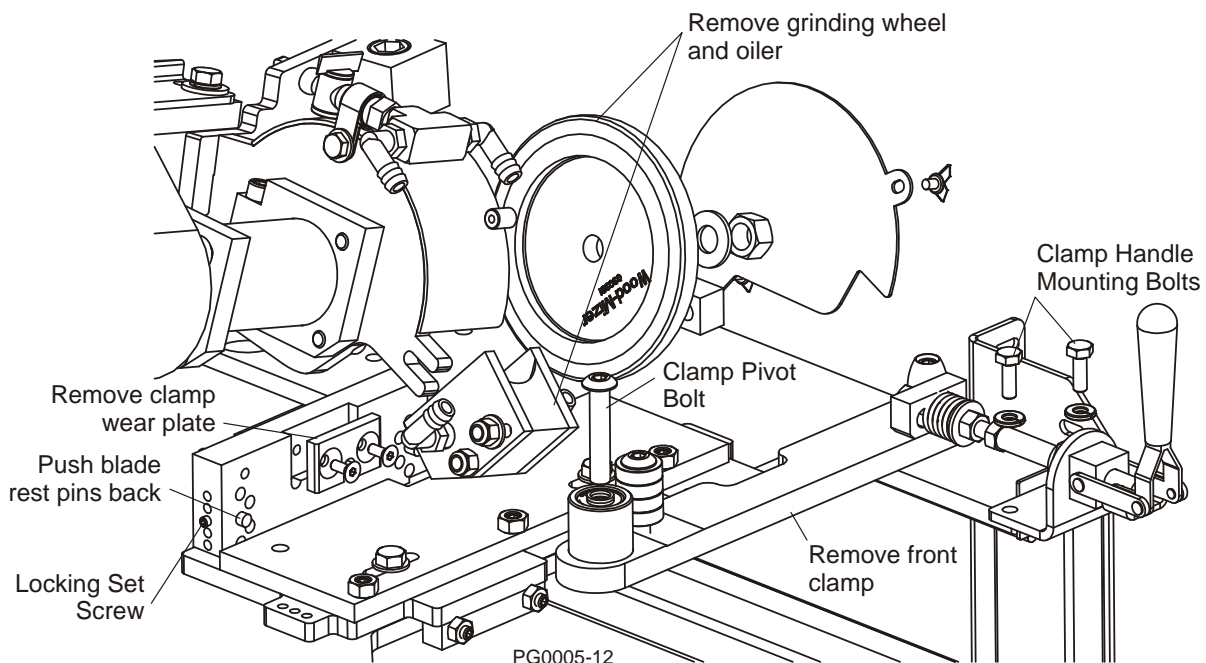


FIG. 3-3

# 3

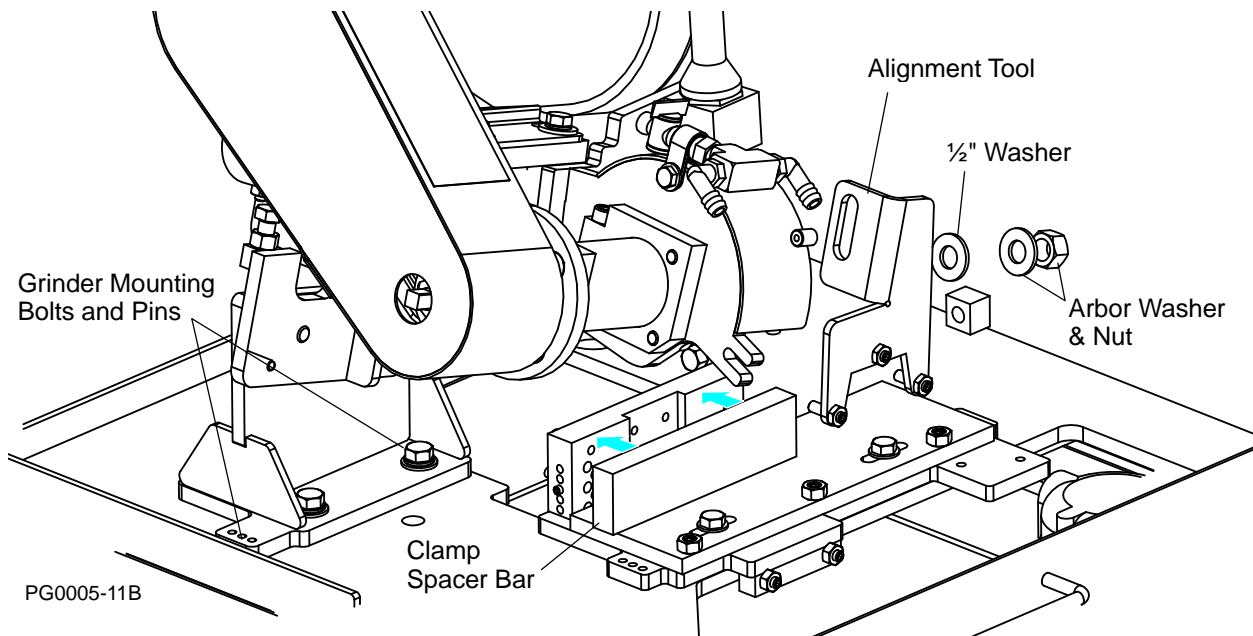
## Maintenance & Alignment

### Alignment

**See Figure 3-4.** Place the provided spacer bar flat against the rear clamp plate. Install the provided alignment tool to the grinding wheel shaft. Install the provided 1/2" spacer washer and replace the arbor washer and nut. Hold the shaft with the provided tool and tighten the arbor nut.

Adjust the depth grind adjustment knob to lower the grinder head until the three alignment tool gauge screws are positioned in front of the clamp spacer bar. All three screws should touch the spacer bar.

If adjustment is necessary, remove the roll pins at the base of the grinder assembly and loosen the four mounting bolts. Slide the grinder assembly forward or back as necessary until all three alignment tool gauge screws touch the clamp spacer bar.



**FIG. 3-4**

Retighten the grinder assembly mounting bolts. Drill new holes if necessary and reinstall the roll pins.

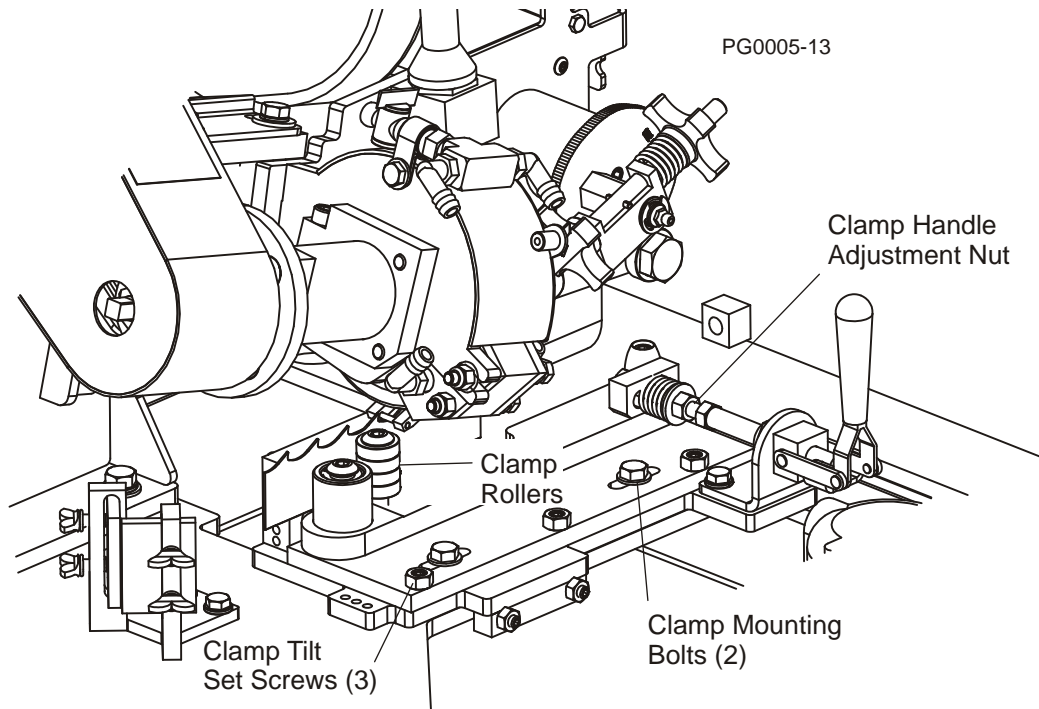
Remove the alignment tool and washers from the grinding wheel shaft and replace the grinding wheel, flat washer and arbor nut. Reinstall the grinding wheel cover and thumb screws. Place the oiler assembly back in position and tighten the top oiler mounting bolt.

Remove the clamp spacer bar and adjust the blade rest pins to their original position and tighten the locking set screws.

Inspect the clamp wear plate for damage or excessive wear and replace if necessary.

Assemble the wear plate to the rear clamp plate.

**See Figure 3-5.** Reinstall the front clamp assembly to the grinder and tighten the clamp handle mounting bolts and the pivot bolt. Place a blade or piece of blade stock against the clamp wear pad and push the clamp handle to clamp the blade.



**FIG. 3-5**

Check the contact of the clamp rollers against the blade. If you can spin all the rollers by hand with a blade clamped, tighten the clamp by adjusting the nut on the blade handle threaded rod.

All four clamp rollers should contact the blade evenly. If you can spin the top roller and not the bottom or vice versa, the clamp needs to be tilted so the rollers are perfectly vertical.

To tilt the clamp, loosen the two clamp mounting bolts and the jam nuts on the three tilt adjust set screws. Adjust the three screws evenly until the clamp rollers contact the blade evenly. Retighten the set screw jam nuts.

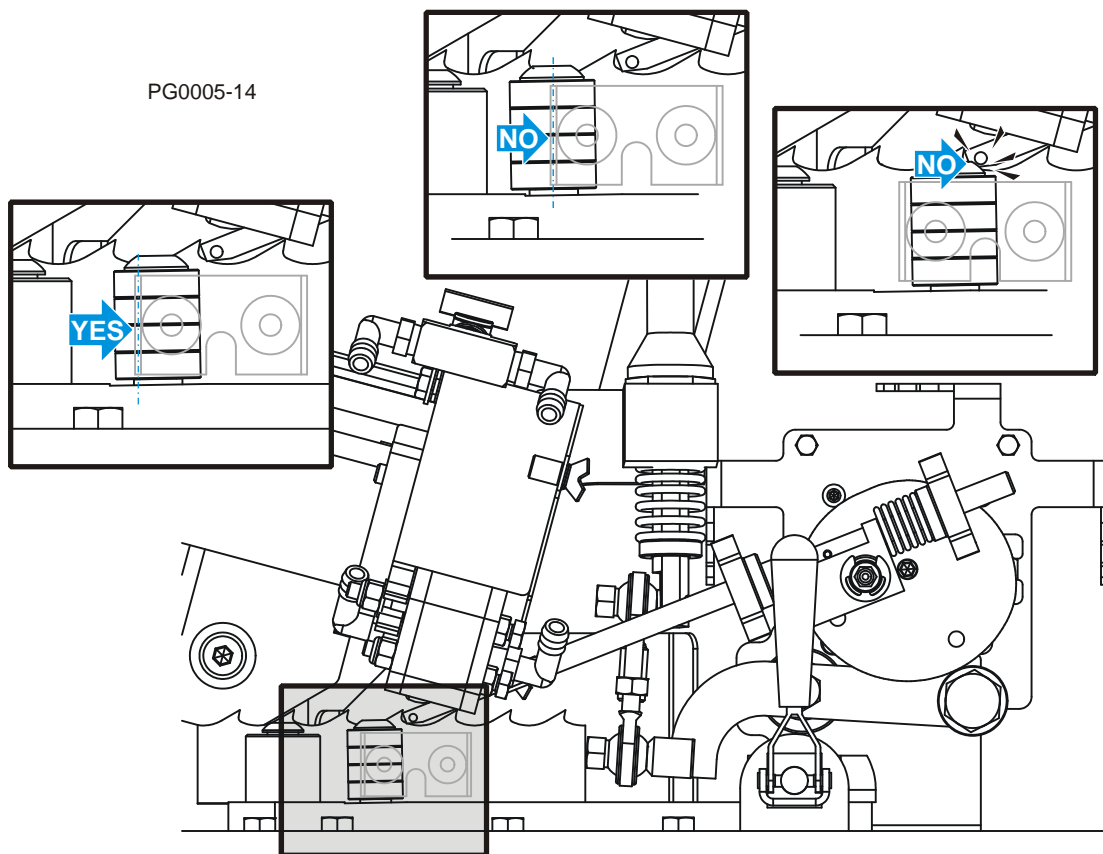
# 3

## Maintenance & Alignment

### Alignment

See **Figure 3-6**. Before tightening the clamp mounting bolts, check the position of the clamp rollers in relation to the wear pad. Be sure the rollers are not centered directly in front of the edge of the pad. This could cause a kink in the blade when clamped.

To adjust the horizontal position of the clamp rollers, tap the clamp assembly to move the rollers toward the index arm. Be sure the index arm will not contact the rollers in its most forward position. Tighten the clamp mounting bolts.



**FIG. 3-6**



### 3.3 Troubleshooting



**WARNING!** Always turn off and disconnect power before performing any service to the machine.

PROBLEM	POSSIBLE CAUSE	SOLUTION
<b>I keep getting "grind t-stat" error.</b>	Grind motor thermostats are improperly wired.	Check wiring.
	Fuse "F1" is blown.	Replace fuse and check for damaged motor harness.
	Grind motor is overheated.	Let motor cool.
<b>All of the motors will not turn on.</b>	Fuse "F2" is blown.	Replace fuse.
	Circuit breaker "CB1" tripped.	Check for overloads. Reset circuit breaker.
<b>My index motor does not work.</b>	Bad PLC control.	Replace PLC control.
	Improper wiring.	Check wiring. Ensure DS4 and DS5 LED's light while trying to run.
	Bad circuit board.	Verify DS1-DS3 LED's are lighted. Check supply voltage.
	Bad index motor.	Replace motor.
<b>My grind motor does not turn on.</b>	Bad potentiometer.	Check resistance between middle terminal and each outside terminal. Replace potentiometer.
	Improper wiring.	Check wiring per schematic. Ensure proper configuration at grind motor.
	Bad circuit board.	Ensure DS6 LED lights on circuit board while trying to run. Ensure 24V signal to circuit board. Replace circuit board.
	Bad relay.	Ensure relay actuates. Replace relay.
	Bad grind motor.	Replace motor.

## 3 Maintenance & Alignment

### Troubleshooting

PROBLEM	POSSIBLE CAUSE	SOLUTION
<b>My pump does not turn on.</b>	Improper wiring.	Check wiring per schematic.
	Bad circuit board.	Ensure DS7 LED lights on circuit board while trying to run. Ensure 24V signal to circuit board. Replace circuit board.
	Bad relay.	Ensure relay actuates. Replace relay.
	Bad pump.	Replace pump.
<b>My end of cycle buzzer does not turn on.</b>	Bad buzzer.	Replace buzzer.
	Bad circuit board.	Ensure DS9 LED lights when the buzzer should be on. Ensure DS2 LED is lighted at all times. Replace circuit board.
	Bad PLC control.	Check the buzzer time setting and ensure the buzzer is activated in the settings. Replace PLC control.
	Improper wiring.	Check wiring. Ensure 24V signal to circuit board.
<b>I keep getting "Index Timeout" error.</b>	Improper wiring.	Check wiring to the proximity sensor. Ensure 24V to HMI while sensor is active.
	Bad PLC control.	Check control index time settings. Run control sensor diagnostic. Replace PLC control.
	Bad sensor.	Check for damaged sensor. Ensure sensor is in close proximity to index cam. Replace sensor.
<b>I keep getting "Index Fault" error.</b>	Bad cam index motor.	Replace motor.
	Bad PLC control.	Check/Adjust the over-current setting in the control.
	Mechanical obstruction.	Check for obstructions. Ensure smooth operation.
<b>My index motor is turning the wrong direction.</b>	Improper wiring.	Interchange red and black leads to cam index motor.
<b>My grind motor is turning the wrong direction.</b>	Improper wiring.	Interchange internal leads to grind motor. See motor nameplate for detailed information.

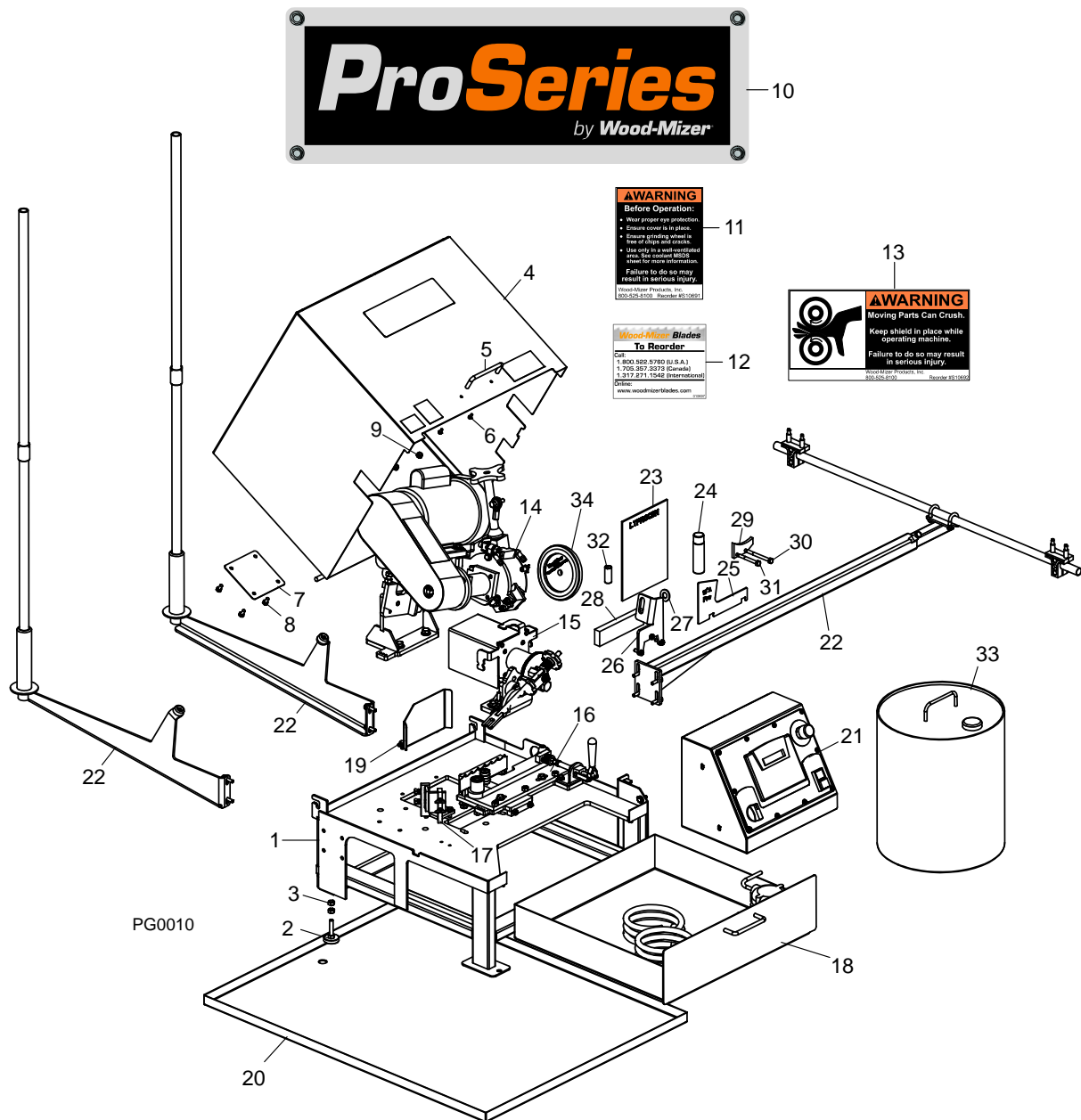
PROBLEM	POSSIBLE CAUSE	SOLUTION
<b>My start push-button does not work.</b>	Improper wiring.	Check wiring. Ensure 24V to terminal "3" of switch contact.
	Bad switch contact.	Ensure 24V to terminal "4" of switch contact while switch is depressed. Replace switch contact.
	Bad PLC control.	Ensure 24V to input of control. Replace PLC control.
<b>My stop push-button does not work.</b>	Improper wiring.	Check wiring. Ensure 24V to terminal "3" of switch contact.
	Bad switch contact.	Ensure 24V to terminal "4" of switch contact while switch is depressed. Replace switch contact.
	Bad PLC control.	Ensure 24V to input of control. Replace PLC control.
<b>My index motor slows as I turn the potentiometer clockwise and speeds as I turn the potentiometer counterclockwise.</b>	Improper wiring.	Interchange connections at TB2.8 and TB2.24.

# 4 Replacement Parts

## Pro Series Blade Grinder (Complete)

### SECTION 4 REPLACEMENT PARTS

#### 4.1 Pro Series Blade Grinder (Complete)



REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.
	<b>GRINDER ASSEMBLY, PRO SERIES COMPLETE BLADE (110V)</b>	LTPROCBN-110	1
	<b>GRINDER ASSEMBLY, PRO SERIES COMPLETE BLADE (220V)</b>	LTPROCBN-220	1
	Grinder Assembly, Pro Series (110V)	060000	1
	Grinder Assembly, Pro Series Blade (220V)	060000-220	1
	Grinder Assembly, Blade 110V w/o Control	060001	1
	Grinder Assembly, Blade 220V w/o Control	060001-220	1
1	Base Weldment, Pro Grinder	060099	1
2	Foot, 5/16-18 x 2 3/32" Leveling	060082	2
3	Nut, 5/16-18 Hex	F05010-17	4
	Hood Assembly, Pro Grinder	060063	1
4	Hood Weldment, Pro Grinder	060060	1
5	Handle, 4" 'U'	P08065	1
6	Screw, #8-32 x 3/8" Self-Tapping	F05015-8	2
7	Plate, Hood Cover	060146	1
8	Bolt, 1/4-20 x 1/2" Hex Head	F05005-15	4
9	Nut, 1/4-20 Self-Locking Hex	F05010-9	4
10	Decal, ProSeries Logo (Large)	057784	1
11	Decal, Grinder Operation Warning	S10691	1
12	Decal, Blade Reorder	010697	1
13	Decal, Moving Parts Warning	S10692	1
14	Pro Grinder Head Parts ( <a href="#">See Section 4.2</a> )		
15	Pro Grinder Cam Index Parts ( <a href="#">See Section 4.8</a> )		
16	Pro Grinder Blade Clamp Parts ( <a href="#">See Section 4.9</a> )		
17	Pro Grinder Blade Wiper Parts ( <a href="#">See Section 4.10</a> )		
18	Pro Grinder Oil Tray/Pump Parts ( <a href="#">See Section 4.11</a> )		
19	Plate, Deflector	060025	1
20	Pan Weldment, Drip	037496	1
21	Pro Grinder Control Parts ( <a href="#">See Section 4.13</a> )		
	Bag Assembly, Pro Grinder Parts	060087	1
22	Pro Grinder Blade Support Parts ( <a href="#">See Section 4.12</a> )		
23	Manual, Pro-Grinder Operation/Parts	M1532	1
24	Dye, 4oz Red Layout	057791	1
25	Plate, Head Angle	060026	1
26	Alignment Tool, Grinder Clamp	010722	1
27	Washer, 1/2" SAE Flat	F05011-2	1
28	Block, Alignment Tool Spacer	060083	1
29	Plate, Oil Trough Spacer	060198	1
30	Bolt, 1/4-20 x 2 3/4" Hex Head	F05005-18	1
31	Bolt, 1/4-20 x 2 1/4" Hex Head	F05005-32	1
32	Socket, 3/8" Female Pipe Plug	060088	1
	Protectors, Eye	P10609	1

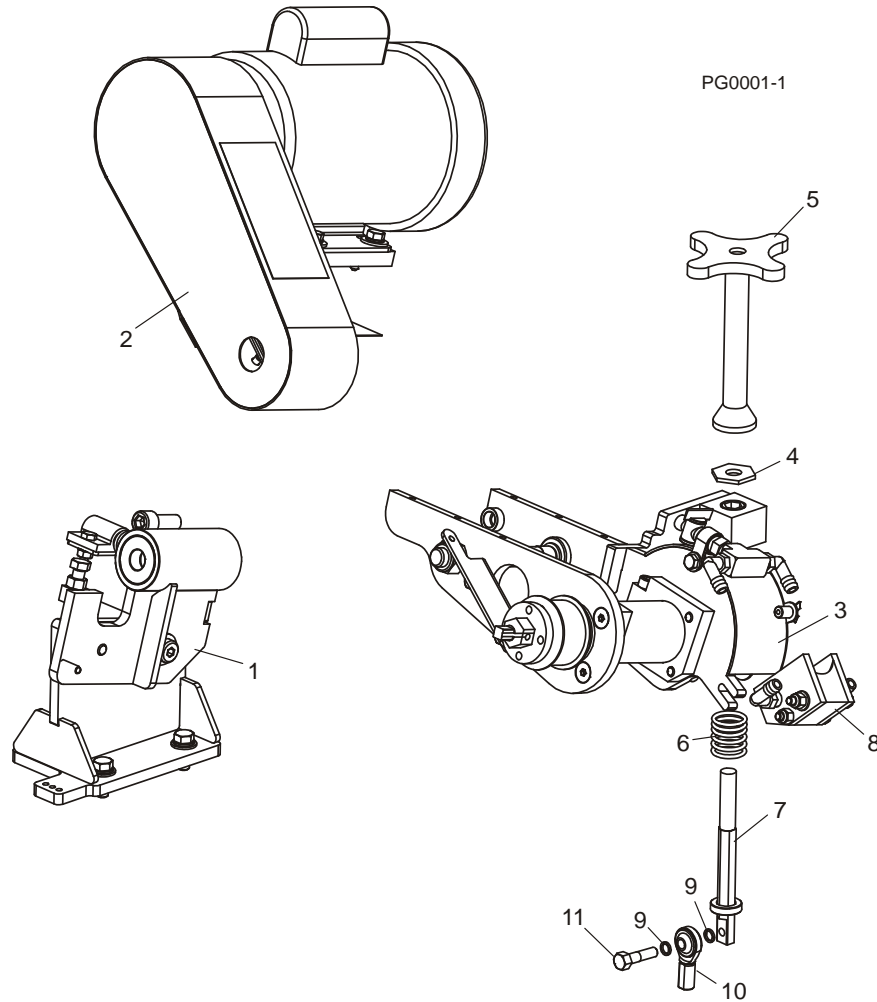
# 4

## Replacement Parts

*Pro Series Blade Grinder (Complete)*

SOLD SEPARATELY:				
33	OIL, 5 GAL. #165-CE GRINDING	010740	1	
34	WHEEL, 10/30 3/4" TOOTH SPACE .243" TOOTH HEIGHT CBN PROFILE GRINDING	053296	1	
	WHEEL, 9/29 7/8" TOOTH SPACE .220" TOOTH HEIGHT CBN PROFILE GRINDING	030380	1	
	WHEEL, 10/30 7/8" TOOTH SPACE .250" TOOTH HEIGHT CBN PROFILE GRINDING	030381	1	
	WHEEL, 13/29 7/8" TOOTH SPACE .300" TOOTH HEIGHT CBN PROFILE GRINDING	030389	1	
	WHEEL, 4/32 7/8" TOOTH SPACE .250" TOOTH HEIGHT CBN PROFILE GRINDING	050744	1	
	WHEEL, 12/28 21/32" TOOTH SPACE .200" TOOTH HEIGHT CBN PROFILE GRINDING	030395	1	
	WHEEL, 7/34 7/8" TOOTH SPACE .295" TOOTH HEIGHT CBN PROFILE GRINDING	053294	1	
	WHEEL, 10/30 1" TOOTH SPACE .330" TOOTH HEIGHT CBN PROFILE GRINDING	053300	1	
	WHEEL, 10/30 1" TOOTH SPACE .246" TOOTH HEIGHT CBN PROFILE GRINDING	053302	1	
	WHEEL, 13/29 1 1/8" TOOTH SPACE .330" TOOTH HEIGHT CBN PROFILE GRINDING	053033	1	
	WHEEL, 10/30 1 1/8" TOOTH SPACE .330" TOOTH HEIGHT CBN PROFILE GRINDING	053034	1	

## 4.2 Grinder Head



REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.
	<b>HEAD ASSEMBLY, PRO GRINDER</b>	060100	1
1	Pivot Base Parts ( <a href="#">See Section 4.3</a> )		
2	Motor Drive Parts ( <a href="#">See Section 4.4</a> )		
3	Head Subassembly Parts ( <a href="#">See Section 4.5</a> )		
4	Washer, Hex Nylon	S03369	1
5	Knob Weldment, Head Adjustment	030402 <sup>1</sup>	1
6	Spring, 2" Die	030321	1
7	Shaft Weldment, Head Adjustment	030319	1
8	Oiler Parts ( <a href="#">See Section 4.7</a> )		
9	<b>SPACER, ROD END</b>	060188	1
10	<b>ROD, 5/16-24 FEMALE END</b>	P09813	2
11	<b>BOLT, 5/16-18 X 1 1/4" HEX HEAD</b>	F05009-62	1

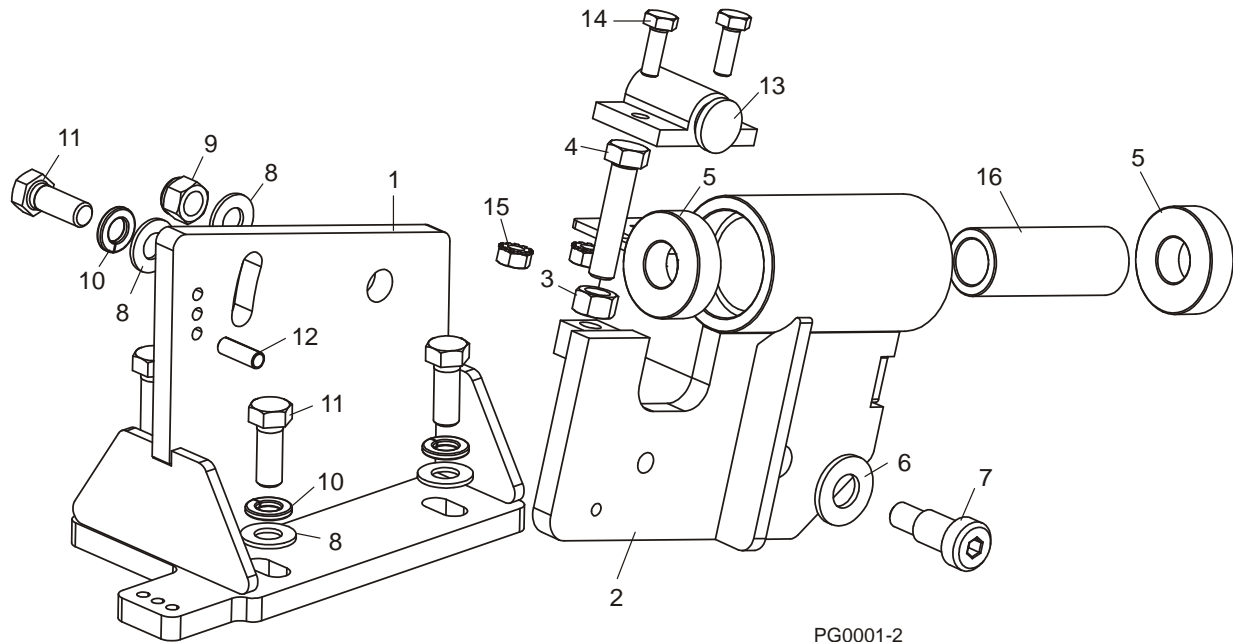
<sup>1</sup> Handle modified to remove sharp edges (Rev. B.00).

# 4

## Replacement Parts

### Pivot Base

#### 4.3 Pivot Base

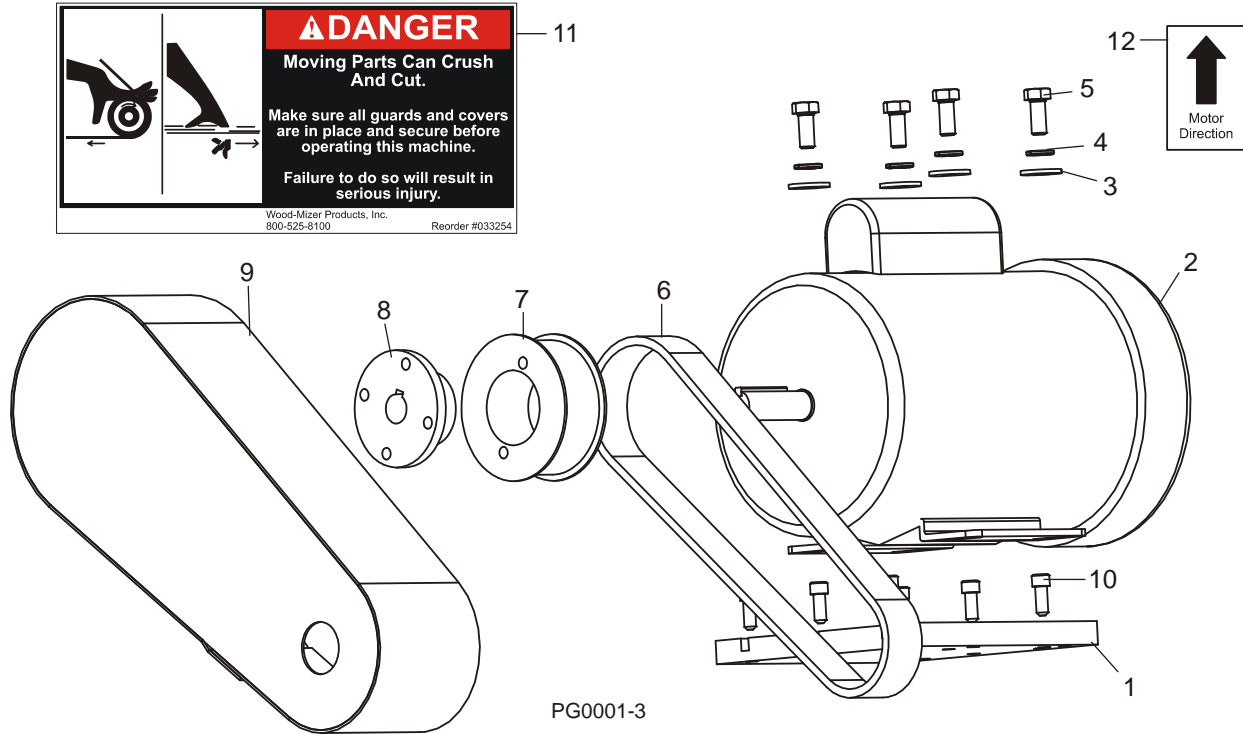


PG0001-2

REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.
1	BASE WELDMENT, PRO GRINDER	060137	1
2	PIVOT WELDMENT, PRO GRINDER	060065	1
3	NUT, 3/8-16 HEX	F05010-1	1
4	BOLT, 3/8-16 X 1 3/4" HEX HEAD FULL THREAD	F05007-19	1
5	BEARING, 6203-2NSL 17MM SRI-2 ABEC-1	P06030-2	2
6	WASHER, 1/2" SAE FLAT	F05011-2	1
7	BOLT, 1/2" X 3/4" UNPLATED SHOULDER	F05008-93	1
8	WASHER, 3/8" SAE FLAT	F05011-3	6
9	NUT, 3/8-16 HEX NYLON LOCK	F05010-10	1
10	WASHER, 3/8" SPLIT LOCK	F05011-4	5
11	BOLT, 3/8-16 X 1" HEX HEAD GRADE 5	F05007-87	5
12	PIN, 1/4" X 3/4" ROLL	F05012-20	1
13	SPRING STOP, 16.5-47.5 LB. END FORCE ROUND FACE	060013	1
14	BOLT, 1/4-20 X 3/4" HEX HEAD	F05005-1	2
15	NUT, 1/4-20 HEX SELF-LOCKING	F05010-9	2
16	SPACER, BEARING	060078	1



### 4.4 Motor Drive



PG0001-3

REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.
1	PLATE, MOTOR MOUNT	060138	1
2	MOTOR, 1/2HP 115/208-230V 50/60HZ S56	060121	1
3	WASHER, 5/16" STANDARD FLAT	F05011-16	4
4	WASHER, 5/16" SPLIT LOCK	F05011-13	4
5	BOLT, 5/16-18 X 3/4" HEX HEAD	F05006-5	4
6	BELT, 24" X 1" GEAR (60HZ)	060144	1
	BELT, 25.5" X 1" GEAR (50HZ)	060130 <sup>1</sup>	1
7	PULLEY, 24" X 1" STB GEARBELT (60HZ)	060143	1
	PULLEY, 28" X 1" STB GEARBELT (50HZ)	060129 <sup>1</sup>	1
8	BUSHING, 5/8" KEYED BORE SPLIT TAPER TYPE 'H'	030361	1
9	GUARD WELDMENT, GRINDER BELT	060131	1
10	SCREW, 1/4-20 X 6/8" SOCKET HEAD	F05005-83	6
11	DECAL, MOVING PARTS DANGER	033254	1
12	DECAL, MOTOR DIRECTION	S20097	1

<sup>1</sup> 60Hz pulley/belt standard. Order 50Hz pulley 060129 and belt 060130 separately to convert.



**Replacement Parts**  
*Head Subassembly*

**4**

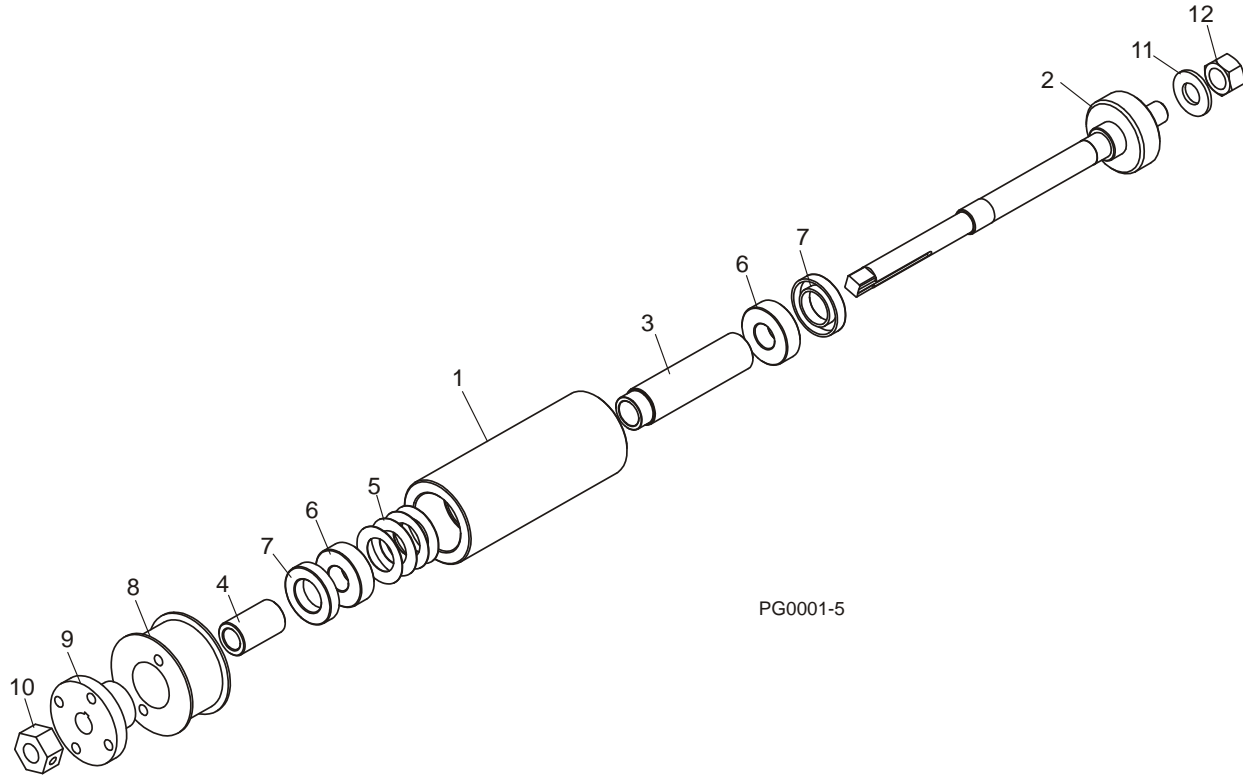
19	BOLT, 1/4-20 X 1/2" HEX HEAD	F05005-15	1	
20	FITTING, 1/4" LOC-LINE VALVE	P09835	1	
21	FITTING, 1/4" NPT HEX NIPPLE	P09144	1	
22	FITTING, 1/4" NPT BRASS TEE	010720	1	
23	FITTING, 3/8" HOSE BARB X 1/4" NPT NYLON ELBOW	P04730	2	
24	PLATE, GRINDER WHEEL COVER	060057	1	
25	SCREW, #10-24 X 1/4" WING STUD	F05004-59	2	

# 4

## Replacement Parts

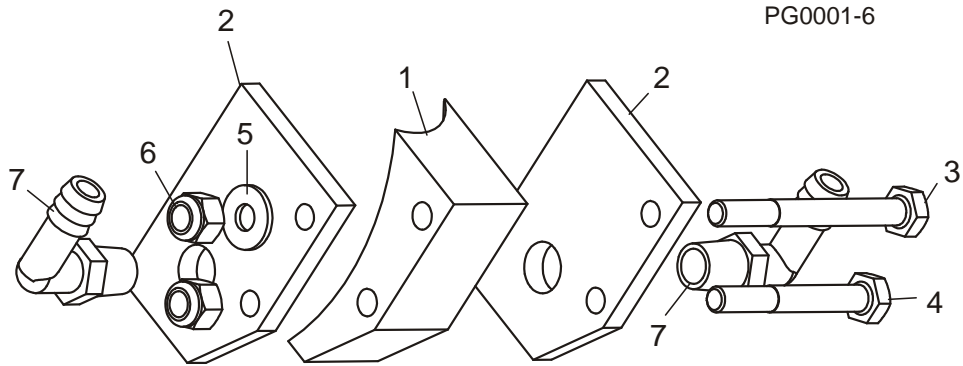
### Head Spindle

#### 4.6 Head Spindle



REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
	<b>SPINDLE ASSEMBLY, PRO GRINDER</b>	060010	1	
1	Housing, Spindle	060015	1	
2	Shaft, Spindle	060004	1	
3	Spacer, Spindle Housing	060003	1	
4	Spacer, Spindle Bearing	060008	1	
5	Spring, 20.4 x 34.6 x .04 mm Belleville Disc Bearing	060041	4	
6	Bearing, 15x35x11 Angular Contact (Pair)	060006	1	
7	Seal, 20 x 35 x 7 Bearing	060007	2	
8	Pulley, 18 x 1" STB Gearbelt	030340	1	
9	Bushing, 1/2" Keyed Bore Split Taper Type 'G'	060142	1	
10	Nut, Spindle	060005	1	
11	Washer, 1/2" SAE Flat	F05011-2	1	
12	Nut, 1/2-20 Hex	F05010-72	1	

### 4.7 Oiler Assembly



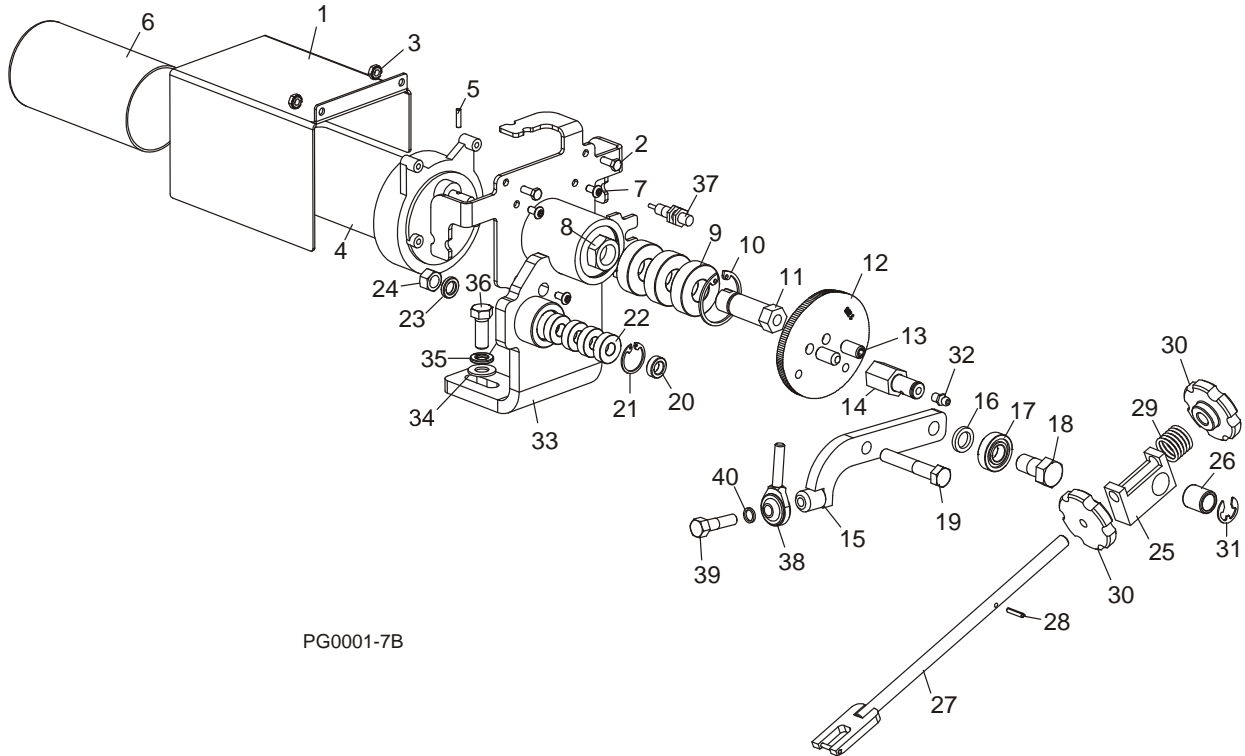
REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
	<b>OILER ASSEMBLY, PRO GRINDER</b>	060136	1	
1	Block, Oil Trough	010730	1	
2	Plate, Oil Trough Side	060135	2	
3	Bolt, 1/4-20 x 2 1/2" Hex Head Grade 5	F05005-126	1	
4	Bolt, 1/4-20 x 2" Hex Head Grade 5	F05005-125	1	
5	Washer, 1/4" SAE Flat	F05011-11	1	
6	Nut, 1/4-20 Hex Nylon Lock	F05010-69	2	
7	Fitting, 3/8" Hose Barb x 1/4" NPT Nylon Elbow	P04730	2	

# 4

## Replacement Parts

### Cam Index

#### 4.8 Cam Index



REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
	<b>INDEX ASSEMBLY, PRO GRINDER CAM</b>	060020	1	
1	Cover, Cam Motor	060118	1	
2	Screw, #10-24 x 1/2" Unslotted Indented Hex Head	F05004-27	2	
3	Nut, #10-24 Self-Locking Hex	F05010-14	2	
	Motor Assembly, Cam Index	060104	1	
4	Motor, 1/16HP 31RPM 24VDC 97:1 Gear	060105	1	◆
5	Pin, 1/8" x 9/16" Modified	S10528	1	
6	Cap, 2 1/2" ID x 5" Rubber	060664	1	
7	Screw, #10-32 x 3/8" Button Head Socket	F05004-56	4	
8	Nut, 5/8-18 Hex Jam	F05010-11	1	
9	Bearing, 6203-2NSL 17mm SRI-2 ABEC-1	P06030-2	3	
10	Ring, 1.575" ID Inside Retaining	F04254-4	1	
11	Shaft, Cam Drive	S09734	1	
	Cam Assembly, Pro Grinder 7/8" - 1 1/4" Blade (Standard)	060119 <sup>1</sup>	1	
	Cam Assembly, Pro Grinder 5/8" - 7/8" Blade (Optional)	060045 <sup>1</sup>	1	
	Cam Assembly, Pro Grinder 1/2" - 3/4" Blade (Optional)	060093 <sup>1</sup>	1	

12	Cam, Profile Index 7/8" - 1 1/4" Tooth Spacing	057401	1	◆
	Cam, Profile Index 5/8" - 7/8" Tooth Spacing	010741	1	◆
	Cam, Profile Index 1/2" - 3/4" Tooth Spacing	060091	1	◆
13	Screw, 3/8-24 x 3/4" Flat Point Stainless Socket Set	F05007-95	2	
14	Shaft, Index Pivot	060106	1	
	Arm Assembly, Cam Pivot	060030	1	
15	Arm Weldment, Cam Pivot	060120	1	
16	Spacer, Cam Bearing	S30179	1	
17	Bearing, R8-2RS	015975	1	
18	Bolt, 1/2-13 x 1" Hex Head	F05008-50	1	
19	Bolt, 3/8-16 x 2 1/4 Hex Head Grade 5	F05007-201	1	
20	Spacer, Bearing	S32032	1	
21	Ring, 7/8" Inside Retaining	F04254-23	1	
22	Bearing, R6-2NSL SRI-2 ABEC-1	P10688	4	
23	Spacer, Index Arm	S32053	1	
24	Nut, 3/8-16 Hex Lock	F05010-25	1	
	Arm Assembly, Index Pawl	060107	1	
25	Block, Index Pawl	S32073	1	
26	Bearing, 1/2" ID Needle	P30253	1	
27	Pawl Weldment, Pro Grinder Index	060116	1	
28	Pin, 1/8" x 5/8" Roll	F05012-14	1	
29	Spring, 3/4" LH Die	P30257	1	
30	Knob, Modified Star	030400	2	
31	Clip, 1/2" ID 'E'	P10649	1	
32	Fitting, 1/4-28 Grease	P05060	1	
33	Mount Weldment, Cam Index	060021	1	
34	Washer, 3/8" SAE Flat	F05011-3	2	
35	Washer, 3/8" Split Lock	F05011-4	2	
36	Bolt, 3/8-16 x 1 Hex Head Grade 5	F05007-87	2	
37	Sensor Assembly, ProGrinder Proximity	053172	1	
38	<b>ROD END, 5/16-24 MALE</b>	P09814	1	
39	<b>BOLT, 5/16-18 X 1 1/4" HEX HEAD</b>	F05009-62	1	
40	<b>SPACER, ROD END</b>	060188	1	

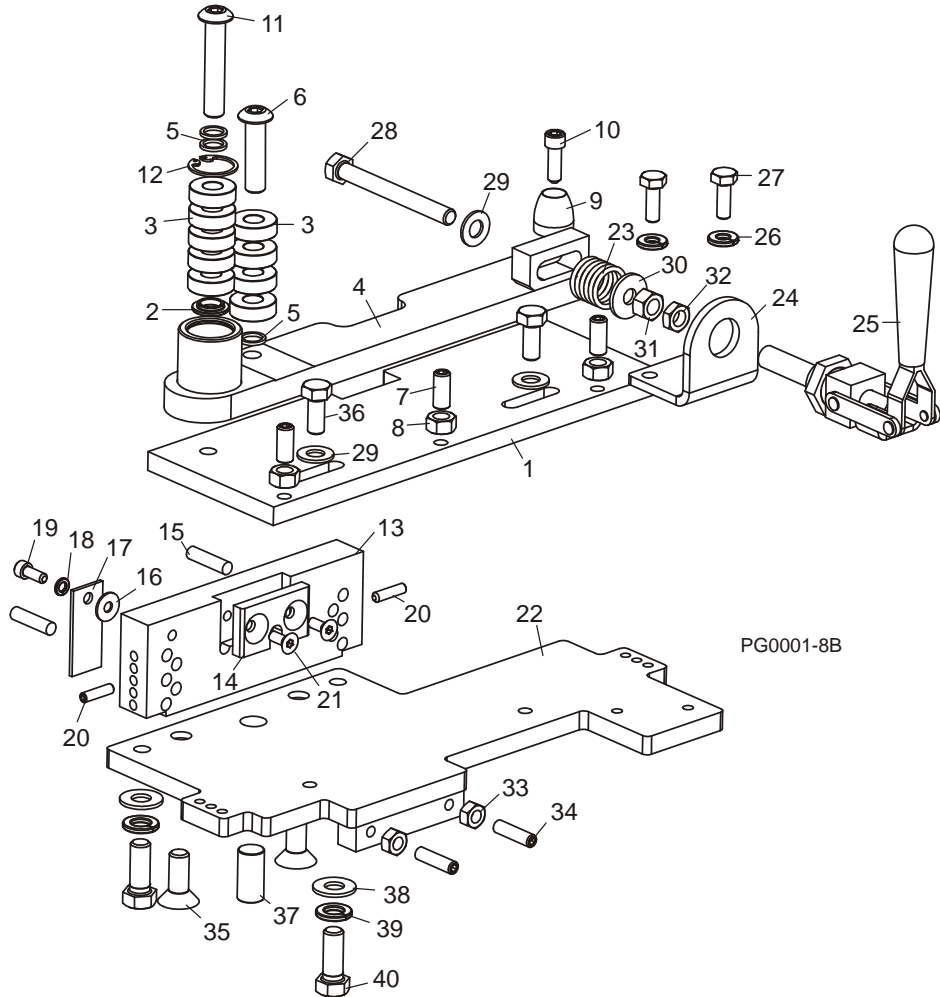
<sup>1</sup> Cam 060119 for blades with 7/8" - 1 1/4" tooth spacing provided as standard equipment on grinder. Cam 060045 for blades with 5/8" - 7/8" tooth spacing and Cam 060093 for blades with 1/2" - 3/4" tooth spacing available separately.

# 4

## Replacement Parts

### Blade Clamp

#### 4.9 Blade Clamp



PG0001-8B

REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.
	<b>CLAMP ASSEMBLY, PRO GRINDER BLADE</b>	060185	1
1	Plate, Clamp Base	060179	1
2	Spacer, 3/8" ID x 1/8" Bearing	035727	1
3	Bearing, R6-2NSL SRI-2 ABEC-1	P10688	9
4	Arm Weldment, Clamp	060182	1
5	Spacer, Pivot Arm Bearing	S30178	3
6	Bolt, 3/8-24 x 1 1/2" Button Socket Head	F05007-106	1
7	Screw, 5/16-18 x 3/4" Cup Point Socket Set	F05006-32	3
8	Nut, 5/16-18 Hex	F05010-17	3
9	Guide, Blade	030323	1
10	Bolt, 1/4-20 x 3/4" Socket Head	F05005-26	1
11	Bolt, 3/8-16 x 2" Button Head Socket	F05007-112	1



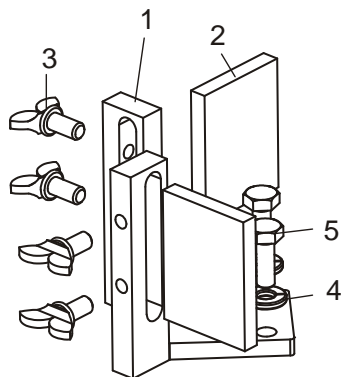
12	Ring, 7/8" Inside Retaining	F04254-23	1	
	Clamp Assembly, Pro Grinder Back	060178	1	
13	Block, Back Clamp	060184	1	
14	Plate, Clamp Wear	P30147	1	
15	Pin, Clamp Wear	P30219	2	
16	Washer, #10 SAE Flat	F05011-18	1	
17	Plate, Wear Pin Stop	S30187	1	
18	Washer, #10 Split Lock	F05011-20	1	
19	Bolt, #10-24 x 1/2" Socket Head	F05004-26	1	
20	Screw, #10-24 x 3/4" Oval Point Socket Set	F05004-62	2	
21	Bolt, #10-24 x 1/2" Flat Head Socket	F05004-61	2	
22	Plate Weldment, Clamp Base	060175	1	
23	Spring, 3/4" LH Die	P30257	1	
24	Bracket, Clamp Lever Mount	060176	1	
25	Clamp Lever, Pro Grinder	035821	1	
26	Washer, 1/4" Split Lock	F05011-14	2	
27	Bolt, 1/4-20 x 3/4" Hex Head Full Thread	F05005-1	2	
28	Bolt, 5/16-18 x 3" Hex Head Full Thread	F05006-91	1	
29	Washer, 5/16" SAE Flat	F05011-17	3	
30	Washer, 5/16" Standard Flat	F05011-16	1	
31	Nut, 5/16-18 Hex Lock	F05010-6	1	
32	Nut, 5/16-18 Hex Jam	F05010-173	1	
33	Nut, 1/4-28 Hex	F05010-53	2	
34	Screw, 1/4-28 x 1" Oval Point Socket Set	F05005-100	2	
35	Bolt, 3/8-16 x 1" Flat Head Socket	F05007-64	2	
36	Bolt, 5/16-18 x 3/4" Hex Head	F05006-102	2	
37	Pin, 1/2" x 1" Dowel	F05012-54	1	
38	Washer, 3/8" SAE Flat	F05011-61	2	
39	Washer, 3/8" Split Lock	F05011-4	2	
40	Bolt, 3/8-16 x 1" Hex Head Grade 5	F05007-87	2	

# 4 Replacement Parts

## Blade Wiper Assembly

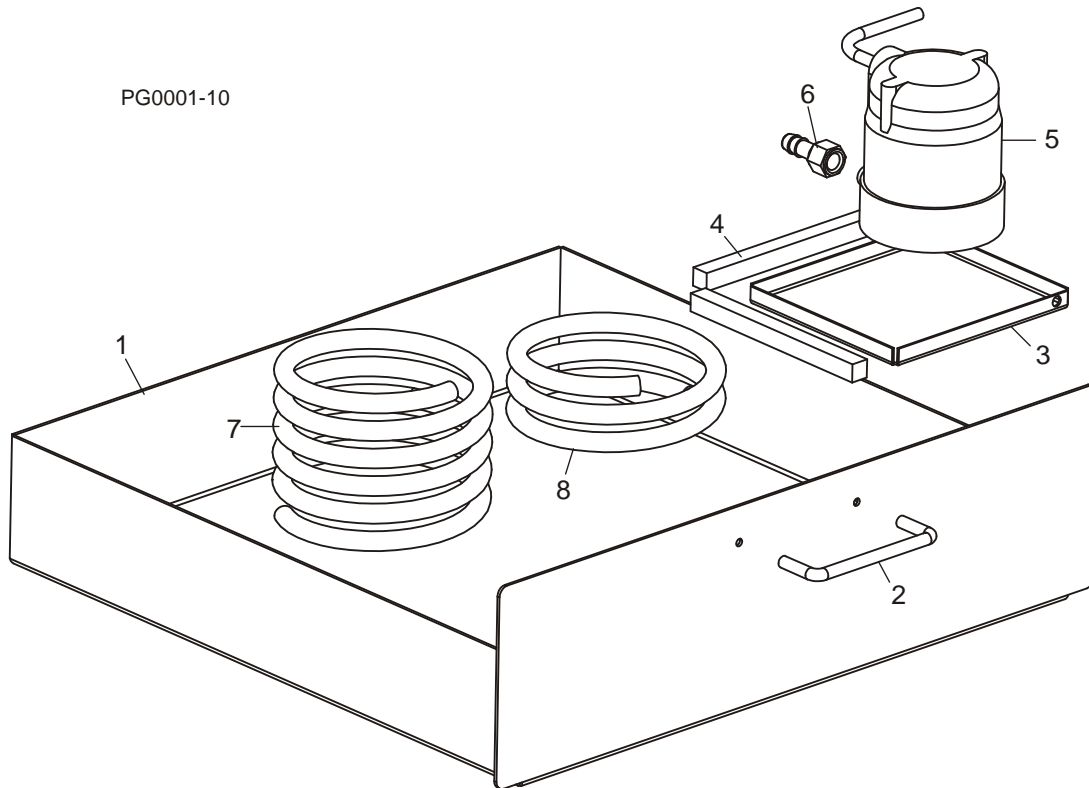
### 4.10 Blade Wiper Assembly

PG0001-9



REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
	<b>WIPER ASSEMBLY, PRO GRINDER BLADE</b>	060114	1	
1	Wiper Weldment, Pro Grinder Blade	060111	1	
2	Wiper, Pro Blade Grinder	S30265	2	
3	Bolt, 1/4-20 x 1/2" Wing Stud	F05005-16	4	
4	Washer, 1/4" Split Lock	F05011-14	2	
5	Bolt, 1/4-20 x 3/4" Hex Head Grade 5	F05005-123	2	

### 4.11 Oil Tray & Pump



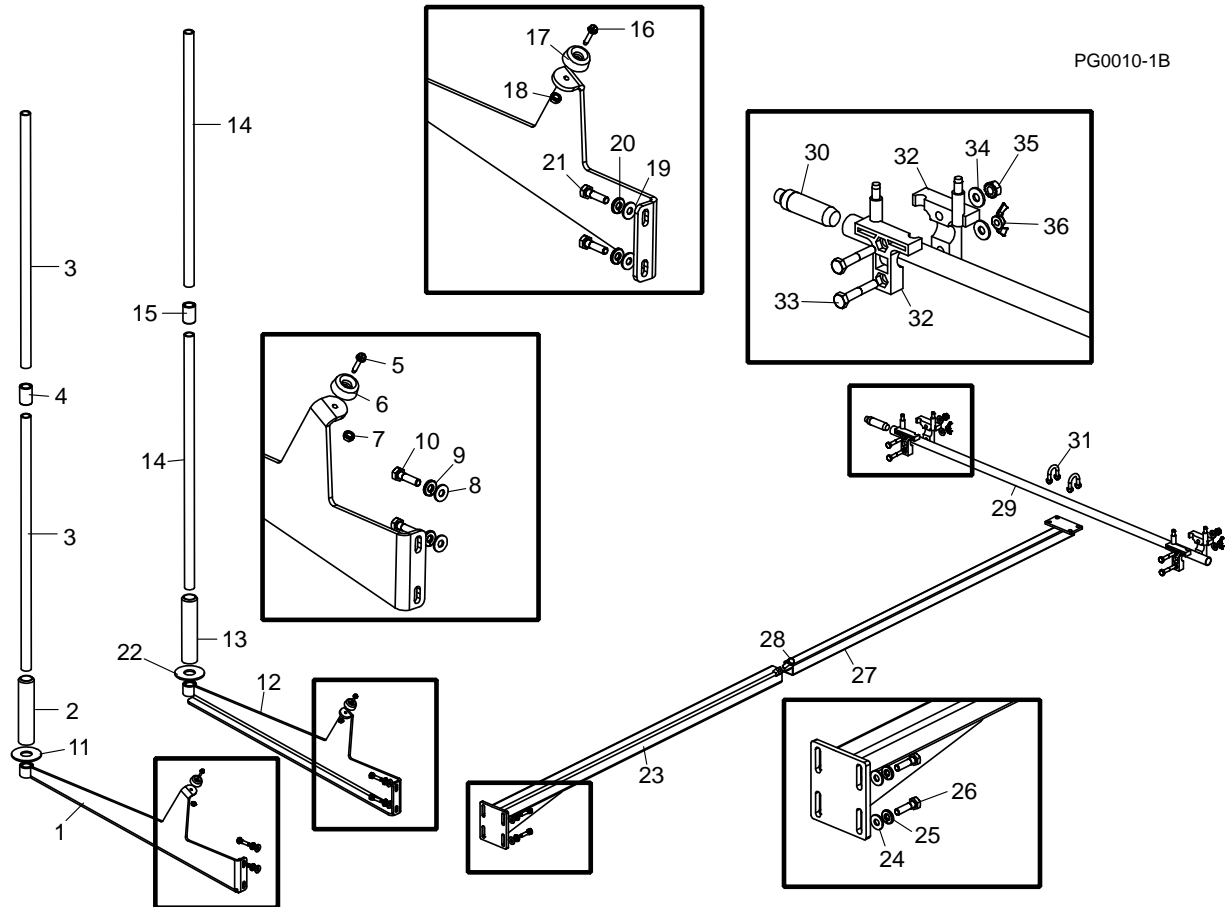
REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
1	TRAY, PRO GRINDER OIL	060053	1	
2	HANDLE, 4" 'U' W/BOLTS	P08065	1	
3	PLATE, PUMP RISER	010756	1	
4	MAGNET, FILTER	P31347	2	
5	PUMP, 110V 1/150HP OIL	060071	1	
	PUMP, 220V 1/150HP OIL	060086	1	
6	FITTING, 3/8" HOSE BARB X 1/4" FPT	P04688	1	
7	HOSE, 3/8" X 1/2" X 4' OIL	010739	1	
8	HOSE, 3/8" X 1/2" X 13" OIL	060072	1	

# 4

## Replacement Parts

### Blade Support Arms

#### 4.12 Blade Support Arms



PG0010-1B

REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.
	<b>SUPPORT ASSEMBLY, LEFT BLADE</b>	060126	1
1	Arm Weldment, Left Blade Support	060127	1
2	Tube, Blade Wear	030347	1
3	Pipe, 1/2" SCH40 x 24" Nipple	060036	2
4	Fitting, 1/2" NPT Black Iron Coupling	P20233	1
5	Screw, #8-32 x 3/4" Slotted Hex Washer Head Type 'F'	F05015-23	1
6	Foot, Rubber	P06104	1
7	Nut, #8-32 Self-Locking Hex	F05010-41	1
8	Washer, 1/4" SAE Flat	F05011-11	2
9	Washer, 1/4" Split Lock	F05011-14	2
10	Bolt, 1/4-20 x 1" Hex Head Grade 5	F05005-101	2
11	Washer, 11Ga x 2 1/2" OD x 15/16" ID	062303	1

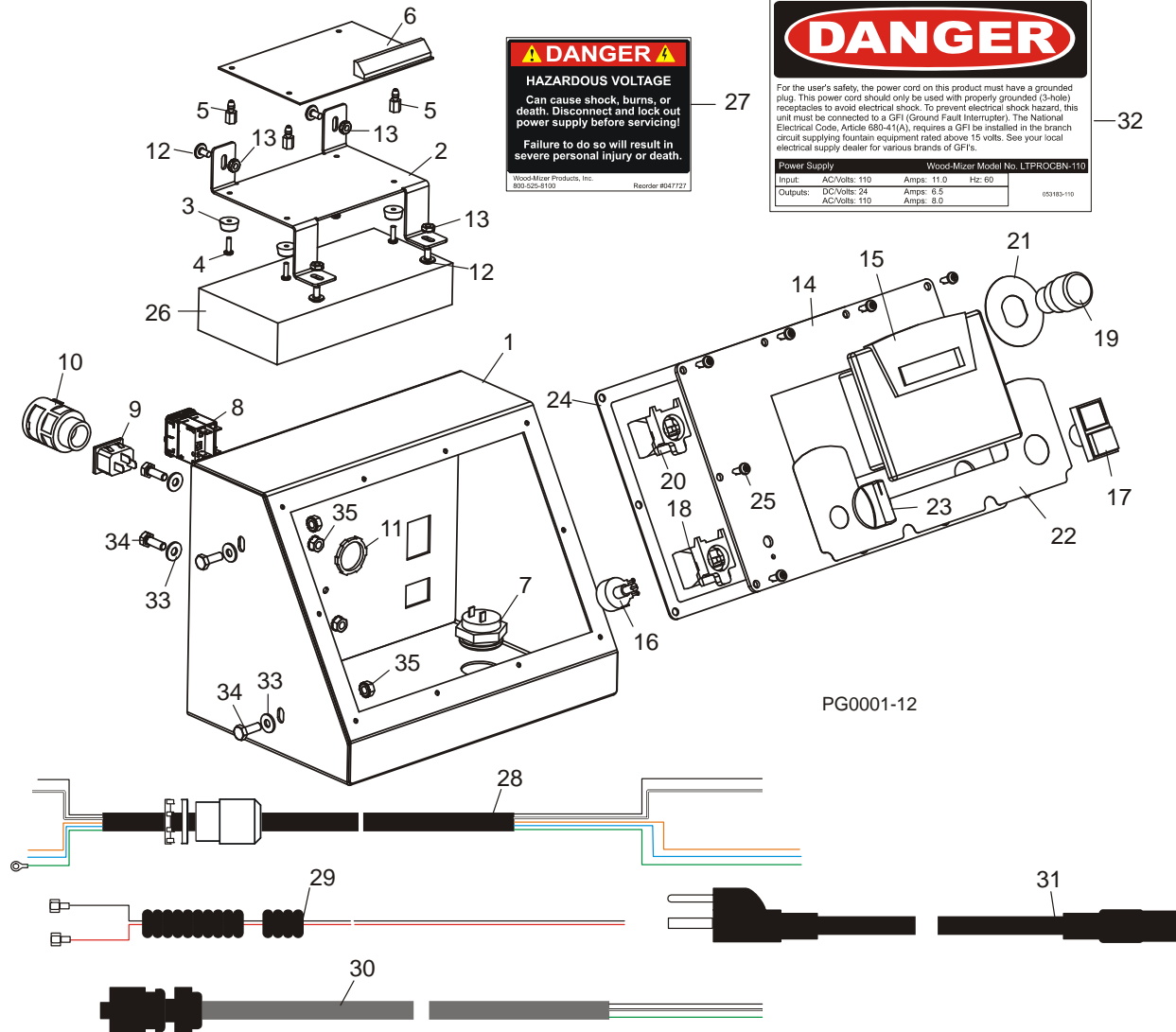
	<b>SUPPORT ASSEMBLY, RIGHT BLADE</b>	060125	1	
12	Arm Weldment, Left Blade Support	060124	1	
13	Tube, Blade Wear	030347	1	
14	Pipe, 1/2" SCH40 x 24" Nipple	060036	2	
15	Fitting, 1/2" NPT Black Iron Coupling	P20233	1	
16	Screw, #8-32 x 3/4" Slotted Hex Washer Head Type 'F'	F05015-23	1	
17	Foot, Rubber	P06104	1	
18	Nut, #8-32 Self-Locking Hex	F05010-41	1	
19	Washer, 1/4" SAE Flat	F05011-11	2	
20	Washer, 1/4" Split Lock	F05011-14	2	
21	Bolt, 1/4-20 x 1" Hex Head Grade 5	F05005-101	2	
22	Washer, 11Ga x 2 1/2" OD x 15/16" ID	062303	1	
	<b>ARM ASSEMBLY, EXTENDED BLADE SUPPORT</b>	060403	1	
23	Arm Weldment, Extended Blade Support	060407	1	
24	Washer, 1/4" SAE Flat	F05011-11	4	
25	Washer, 1/4" Split Lock	F05011-14	4	
26	Bolt, 1/4-20 x 1" Hex Head Grade 5	F05005-101	4	
27	Arm Weldment, Blade Support Extension	060404	1	
28	Bolt, 5/16-18 x 1" Hex Head Grade 5	F05006-27	1	
	Tube Assembly, 36" Blade Support	062314	1	
29	Tube, 36" Support	060400	1	
30	Plug, Support Tube	P04552	1	
31	U-Bolt, 1/4-20 x 3/4" ID x 1 1/4" Long w/Hex Nuts	F05005-11	2	
	Guide Assembly, Blade Support	A30008	2	
32	Guide, Blade Support w/Post	S10611	2	
33	Bolt, 1/4-20 x 1 1/2" Hex Head	F05005-5	2	
34	Washer, 1/4" SAE Flat	F05011-11	2	
35	Nut, 1/4-20 Self-Locking Hex	F05010-9	1	
36	Nut, 1/4-20 Wing	F05010-13	1	

# 4

## Replacement Parts

### Control Box

#### 4.13 Control Box



REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.
	<b>CONTROL ASSEMBLY, PRO GRINDER</b>	060022	1
1	Box Weldment, Pro Grinder Control	060014	1
2	Bracket, PCB Support	060207	1
3	Foot, .63" Dia. Rubber	060212	4
4	Screw, #6032 x 1/2" Phillips Pan Head Type 23	F05015-28	4
5	Standoff, #6-32 x .156" PCB	060209	4
6	PCB Assembly, Pro Grinder	053083	1
7	Buzzer, 3-24VDC Panel Mount	060214	1
8	Breaker, 10A Snap Mount 2 Pole Circuit	060215	1

9	Receptacle, Power Entry	060216	1	
10	Connector, 23mm x 3/4" NPT	024252	1	
11	Nut, 3/4" Conduit Lock	025198	1	
12	Bolt, #10-24 x 3/8" Phillips Washer Pan Head	F05004-148	4	
13	Nut, #10-24 Self-Locking Hex	F05010-14	4	
	Panel Assembly, Pro Grinder Control	053174	1	
14	Panel, Pro Grinder Control Box	060029	1	
15	PLC Assembly, Pro Grinder w/Software	053173	1	
16	Pot Assembly, Pro Grinder w/Wires	053165	1	
17	Switch Head, Push Button Flush Green/Red ZB5	060016	1	
18	Switch Body, 2NO 22mm ZB5	060017	1	
19	Switch Head, Push/Pull 30mm E-Stop	060202	1	
20	Switch Body, 2NC 22mm ZB5	060203	1	
21	Legend, Round Yellow E-Stop	050992	1	
22	Decal, Pro Grinder Control	053139	1	
23	Knob, 1.5" Dia. Control	060019	1	
24	Gasket, Pro Grinder Control Panel	060068	1	
25	Bolt, #10-24 x 1/2" Pan Head	F05015-17	10	
26	Power Supply, 110/220VAC 24VDC 6.5A	060208	1	
27	Decal, Hazardous Voltage Danger	047727	1	
28	Cable Assembly, Pro Grinder Grind Motor	053166	1	
29	Cable Assembly, Pro Grinder Index Motor	053167	1	
30	Cable Assembly, Pro Grinder Pump Motor	053170	1	
31	Power Cord, 125V 10A 3 Cond 6' - 7"	050592	1	
32	<b>DECAL, PRO GRINDER GFI 110V DANGER</b>	053183-110	1	
	<b>DECAL, PRO GRINDER GFI 220V DANGER</b>	053183-220	1	
33	<b>WASHER, 1/4" SAE FLAT</b>	F05011-11	4	
34	<b>BOLT, 1/4-20 X 3/4" HEX HEAD FULL THREAD</b>	F05005-1	4	
35	<b>NUT, 1/4-20 SELF-LOCKING HEX</b>	F05010-9	4	

## SECTION 5 ELECTRICAL INFORMATION

### 5.1 Schematic

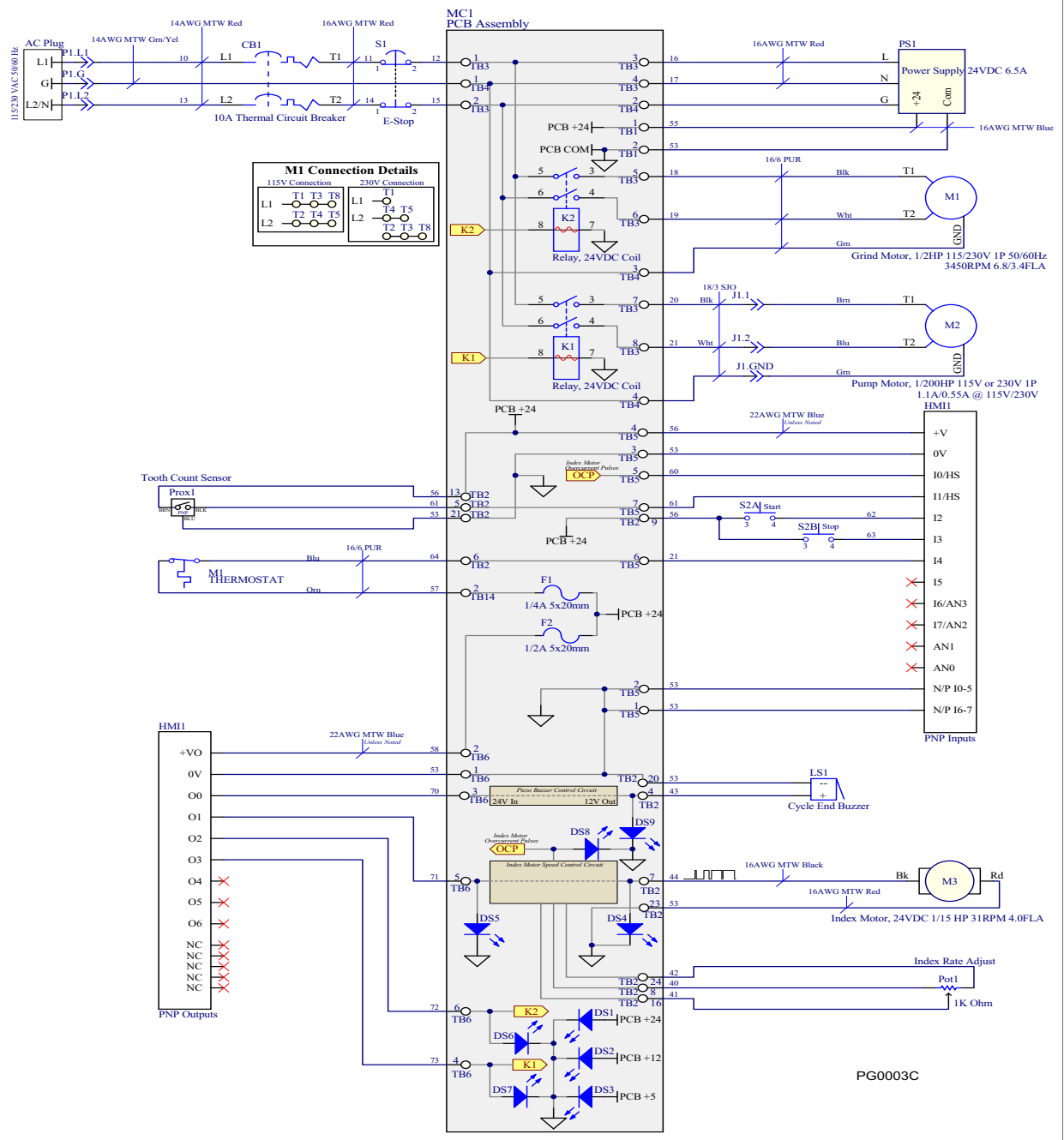


FIG. 5-1



5.2 Component Layout Diagrams

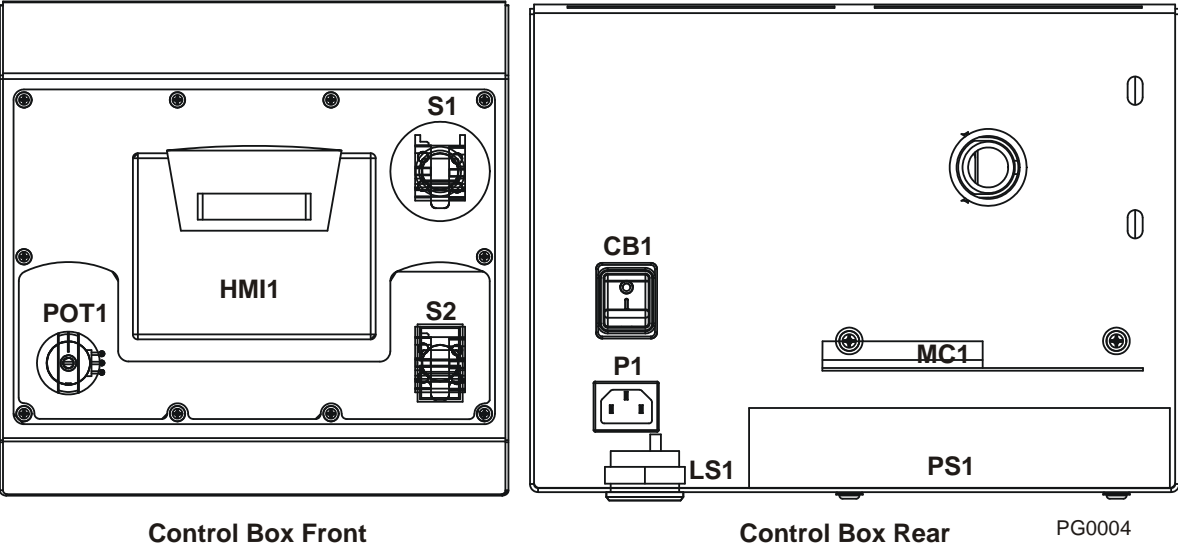
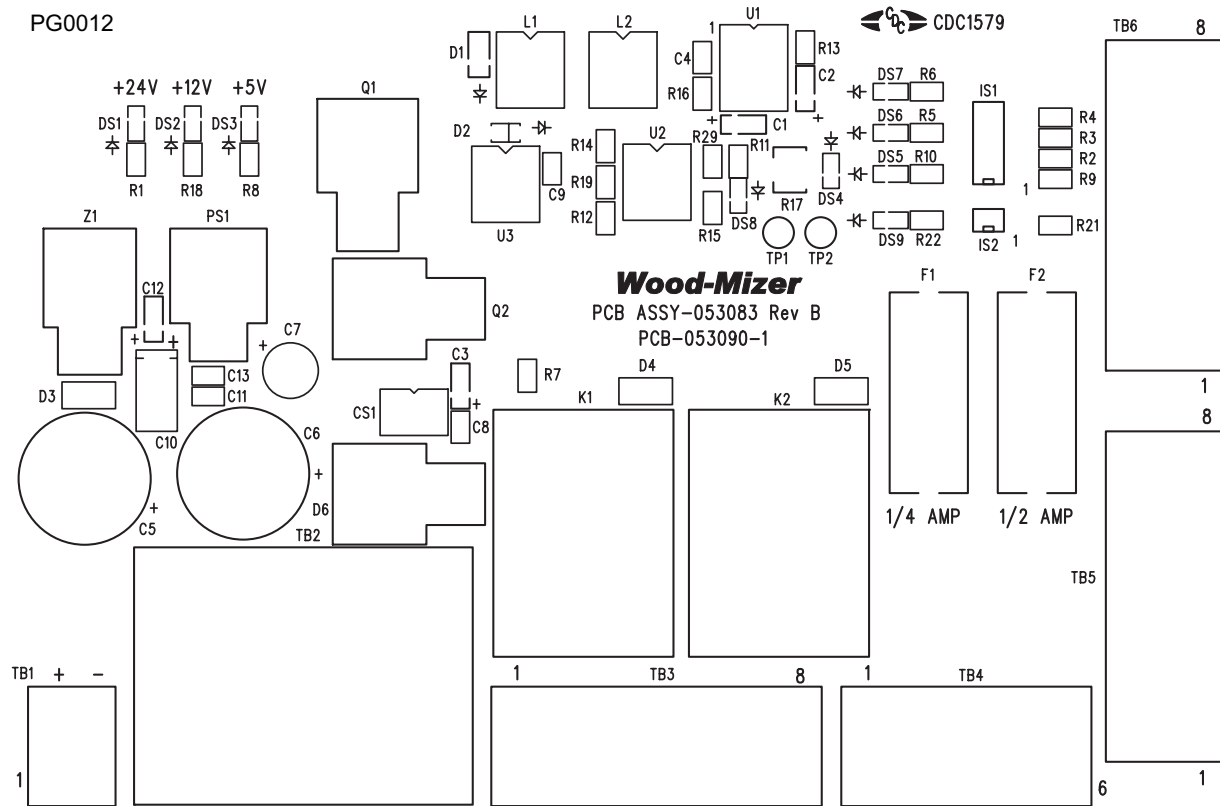


FIG. 5-2

### 5.3 Motor Control PCB Layout Diagram



**FIG. 5-3**

## 5.4 Component List

ID	Manufacturer Part No.	Manufacturer	Wood-Mizer Part No.	Description
<b>CB1</b>	4435.0091	Shurter	060215	Breaker, 10A Snap Mount 2P Circuit
<b>F1</b>	14O8470	Newark InOne	068315	Fuse, 0.25A 5 x 20mm Fast-Acting
<b>F2</b>	50M5583	Newark InOne	068316	Fuse, 0.50A 5 x 20mm Fast-Acting
<b>HMI1</b>	053173	Wood-Mizer	053173	PLC Assembly, ProSeries Grinder
<b>K1, K2</b>	PC113-2C-24D-X	Picker Components	069620	Relay, 12A Form 2C 24VDC Coil Ice-Cube
<b>LS1</b>	31S3120T	Buzzers Direct	060214	Buzzer, 3-24VDC Single Tone Piezo
<b>M1</b>	103259	Midwest Controls Inc.	060121	Motor, 1/2HP 115/208-230V 50/60Hz S56 Grinder
<b>M2 (110V)</b>	060071	Wood-Mizer	060071	Pump Assembly, 110V 1/150HP oil
<b>M2 (220V)</b>	060086	Wood-Mizer	060086	Pump Assembly, 220V 1/150HP oil
<b>M3</b>	060104	Wood-Mizer	060104	Motor Assy, Cam Index w/Pin
<b>MC1</b>	053083	Wood-Mizer	053083	PCB Assembly, ProGrinder Motor Control
<b>P1</b>	701W-X2/04	Qualtek Electronics Corp.	060216	Receptacle, Power Entry
<b>POT1</b>	060019	Wood-Mizer	060019	Switch Assembly, ProGrinder 1K Potentiometer
<b>PROX1</b>	053172	Wood-Mizer	053172	Sensor Assembly, ProGrinder Proximity
<b>PS1</b>	RS-150-24	Meanwell	060208	Power Supply, 110/220VAC 24VDC 6.5A
<b>S1</b>	ZB5AT44	SquareD	060202	Switch Head, Push-Pull 30mm E-Stop
	ZB5AZ101	SquareD	060203	Switch Base, 2NC 22mm ZB5
<b>S2</b>	ZB5AA7341	SquareD	060016	Switch Head, Red/Green Flush ZB5
	ZB5AZ103	SquareD	060017	Switch Base, 2NO 22mm ZB5
	ZBA710	SquareD	052501	Boot, Clear Sealing ZB Sw

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