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# MKDX BULLNOSE & SHAPING MACHINE OPERATION & PARTS MANUAL



Revision 100	11.2007

**Caution:** Read all safety and operating instructions before using this equipment. This manual **MUST** accompany the equipment at all times.



MK Diamond Products, Inc.



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Safety precautions should be followed at all times when operating this equipment. Failure to read and understand the Safety Precaution and Operating Instructions could result in injury to yourself and others.

This Operation and Parts Manual has been developed to provide complete instructions for the safe and efficient operation of the MKDX Bullnose & Shaping Machine.

**Before using this machine, ensure that the person operating the machine has read and understands all instructions in this manual.**

## **SAFETY MESSAGE / ALERT SYMBOLS**

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A safety message alerts you to potential hazards that could hurt you or others. Each safety message is preceded by a safety alert symbol (  ) and one of three words: **DANGER**, **WARNING**, or **CAUTION**.

### **DANGER**

You **WILL** be **KILLED** or **SERIOUSLY INJURED** if you do not follow directions.

### **WARNING**

You **CAN** be **KILLED** or **SERIOUSLY INJURED** if you do not follow directions.

### **CAUTION**

You **CAN** be **INJURED** if you do not follow directions. It may also be used to alert against unsafe practices.

Each message tells you what the hazard is, what can happen, and what you can do to avoid or reduce injury. Other important messages are preceded by the word **NOTICE**.

### **NOTICE**

You can cause **PROPERTY DAMAGE** to your machine if you don't follow directions.

The safety labels should be periodically inspected and cleaned by the user to maintain good legibility at a safe viewing distance. If the label is worn, damaged or illegible, it should be replaced.

## SAFETY WARNINGS

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### **SILICA DUST WARNING:**

Grinding/cutting/drilling of masonry, concrete, metal and other materials with silica in their composition may give off dust or mists containing crystalline silica. Silica is a basic component of sand, quartz, brick clay, granite and numerous other minerals and rocks. Repeated and/or substantial inhalation of airborne crystalline silica can cause serious or fatal respiratory diseases, including silicosis. In addition, California and some other authorities have listed respirable crystalline silica as a substance known to cause cancer. When cutting such materials, always follow respiratory precautions.

### **CALIFORNIA PROPOSITION 65 MESSAGE:**

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contain chemicals known (to the State of California) to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- Lead, from lead-based paints
- Crystalline silica, from bricks and cement and other masonry products
- Arsenic and chromium, from chemically treated lumber

For further information, consult the following sources:

<http://www.osha-slc.gov/sltc/silicacrystalline/index.html>

[http://www.oehha.org/prop65/out\\_of\\_date/6022kLstA.html](http://www.oehha.org/prop65/out_of_date/6022kLstA.html)

Your risk from these exposures varies depending on how often you do this type of work. To reduce your exposure to these chemicals, work in a well-ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

Potential hazards associated with the MKDX Bullnose & Shaping Machine operation will be referenced with Hazard Symbols which appear throughout this manual, and will be referenced in conjunction with Safety Message/Alert Symbols.

## HAZARD SYMBOLS



**ALWAYS** read this Owner's Manual before operating the machine.



Avoid inhalation of and skin contact with silica dust and/or mist.



**ALWAYS** place the power ON/OFF switch in the **OFF** position when the MKDX is not in use.



**ALWAYS** wear approved eye protection.



**ALWAYS** wear approved respiratory protection.



**NEVER** operate equipment with covers, or guards removed. Keep fingers, hands, hair and clothing away from all moving parts to prevent injury.



Use caution around gears. Keep fingers, hands, hair and clothing away from all moving parts to prevent injury.



**DO NOT** touch hot engine components while the machine is running or immediately after operating.



**NEVER** touch the power cord with wet hands or while standing in water when it is connected to a power source.



**NEVER** operate the machine in an explosive atmosphere or near combustible materials.

## RULES FOR SAFE OPERATION



### DANGER

Failure to follow instructions in this manual may lead to serious injury or even death! This equipment is to be operated by trained and qualified personnel only! This equipment is for industrial use only.

The following safety guidelines should always be used when operating the MKDX Bullnose & Shaping Machine.

## GENERAL SAFETY



- **DO NOT** operate or service this equipment before reading this entire manual.

- This equipment should not be operated by persons under 18 years of age.
- **NEVER** operate this equipment without proper protective clothing, shatterproof glasses, steeltoed boots and other protective devices required by the job.
- **NEVER** operate this equipment when not feeling well due to fatigue, illness or taking medicine.
- **NEVER** operate this equipment under the influence of drugs or alcohol.
- Whenever necessary, replace nameplate, operation and safety decals when they become difficult to read.
- **ALWAYS** check the machine for loose bolts before starting.



- **ALWAYS** wear proper respiratory (mask) hearing and eye protection equipment when operating this machine.

- **ALWAYS** store equipment properly when it is not being used. Equipment should be stored in a clean, dry location out of the reach of children.



- **NEVER** leave the machine unattended. Turn off electric motor when unattended.

- **CAUTION** must be observed while servicing the machine. Rotating parts can cause injury if contacted.
- Ensure that any electrical extension cord is protected against damage. Always ensure that the electrical extension cord is not trapped underneath the machine.
- **DO NOT** allow extension cord to come into contact with water or fluids. **DO NOT** spray water onto electric motor.



- **NEVER** operate the machine in an explosive atmosphere.

- Before starting the machine, check that all guards are in position and correctly fitted.
- Keep area around the machine clear of obstructions which could cause persons to fall onto moving parts.
- **ALWAYS** ensure that the machine is on level ground before using.
- Become familiar with the controls of the machine before operating.

- **ALWAYS** disconnect AC power plug from power source before moving or servicing the machine.
- Make sure the OFF/ON power switch on the electric motor is always in the **OFF** position before inserting the machine's power plug into an AC receptacle.
- Operate electric motor only at the specified voltage indicated on the nameplate.
- **NEVER** disconnect any "emergency or safety devices". These devices are intended for operator safety. Disconnection of these devices can cause severe injury, bodily harm or even death! Disconnection of any of these devices will void all warranties.
- Unauthorized equipment modifications will void all warranties. Manufacturer does not assume responsibility for any accident due to equipment modifications.
- **NEVER** use accessories or attachments, which are not recommended by MK Diamond for this equipment. Damage to the equipment and/or injury to user may result.
- The MKDX Bullnose and Shaping machine is designed to be used only with approved diamond cutters. All bullnosing and shaping must be done with water as a coolant.



## WARNING

Never use this machine with any cutter designed for wood working.

## MOTOR OVERLOAD SAFETY

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- If the machine goes off unexpectedly, the motor's overload cutout may have been activated. In this case, unplug the machine from the power supply and wait until the motor and overload cutout have cooled down.

## SHAPING SAFETY

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- Before starting any type of shaping operation:
  - Always check that the spray guard is in place.
  - Always check that the profile wheel is sharp. If necessary, sharpen using a sharpening stone.
  - Always check that the profile wheel shows no signs of cracking. If necessary, replace it.
  - Always check that nobody is in the work area except those directly involved in the operations.

## WATER SAFETY

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- Before starting any type of profiling operation, always check the level of cooling water.

## MAINTENANCE SAFETY

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- **NEVER** lubricate components or attempt service on a running machine.
- Keep the machinery in proper running condition.
- Fix damage to the machine immediately and always replace broken parts, or missing decals.



## ELECTRICAL REQUIREMENTS AND GROUNDING INSTRUCTIONS

In order to prevent potential electrical shock and injury, the following electrical safety precautions and symbols should be followed at all times!



### WARNING

In case of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

- Do not modify the plug provided – if it will not fit the outlet; have the proper outlet installed by a qualified electrician
- Improper connections of the equipment-grounding conductor can result in a risk of electric shock. The equipment-grounding conductor is the insulated conductor that has an outer surface that is green, with or without yellow stripes. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal
- Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the tool is properly grounded
- Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the tool's plug
- Repair or replace a damaged or worn cord immediately



### WARNING

This tool is intended for use on a circuit that has an outlet that looks like the one shown in Sketch A of Figure 1. The tool has a grounding plug that looks like the plug illustrated in Sketch A of Figure 1. A temporary adapter, which looks like the adapter illustrated in sketches B and C, may be used to connect this plug to a 2-pole receptacle as shown in Sketch B, if a properly grounded outlet is not available. The temporary adapter should be used only until a properly grounded outlet can be installed by a qualified electrician. The green-colored rigid ear, lug, and the like, extending from the adapter, must be connected to a permanent ground such as a properly grounded outlet box.

NOTE: Use of a temporary adapter is not permitted in Canada.

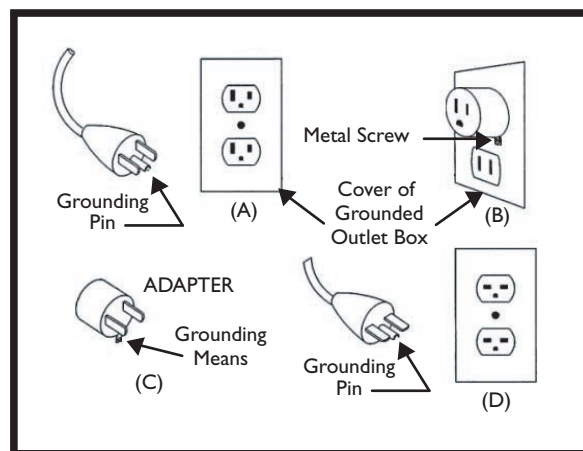


Fig. 1 Circuit and Adapter Information

## WARNING

To reduce the risk of electrocution, keep all connections dry and off the ground.

A Ground Fault Circuit Interrupter (GFCI) should be provided on the circuit(s) or outlet(s) to be used for this machine. Receptacles are available having built-in GFCI protections and may be used for this measure of safety.

When using an extension cord, the GFCI should be installed closest to the power source, followed by the extension cord and lastly, the machine.

## WARNING

The pump requires a GFCI. To reduce risk of electric shock when operating the machine with the pump plugged into the 3-pole receptacle on the motor, connect the saw to a GFCI outlet. See the pump manual and informational tags enclosed separately for all pump information.

## CAUTION

Shock Hazard. For replacement, use only an identical MK pump, model PE-2H part #160509.

NOTE: Do not run pump dry. Also, be sure to disconnect and remove the pump when cutting dry.

When using the water pump plugged into the water pump receptacle, the machine must be plugged into a properly installed and grounded GFCI outlet. See Sketch A of Figure 2. If a GFCI outlet is not available, MK Diamond has available as an accessory item, a plug-in GFCI that may be plugged into a properly installed and grounded 3-pole outlet. See Figure 2.

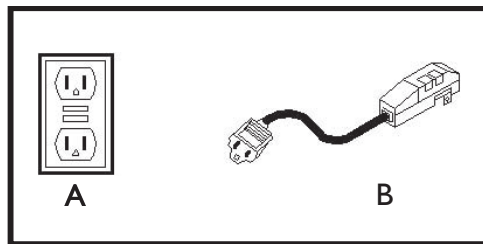


Fig. 2 GFCI Outlet

## WARNING

To avoid the possibility of the appliance plug or receptacle getting wet, position the machine to one side of a wall mounted receptacle. This will prevent water from dripping onto the receptacle or plug. A “drip loop,” shown in Figure 3, should be arranged by the user to properly position the power cord relative to the power source.

The “drip loop” is that part of the cord below the level of the receptacle, or the connector, if an extension cord is used. This method of positioning the cord prevents the travel of water along the power cord and coming in contact with the receptacle.

If the plug or receptacle gets wet, DO NOT unplug the cord. Disconnect the fuse or circuit breaker that supplies power to the tool. Then unplug and examine for presence of water in the receptacle.

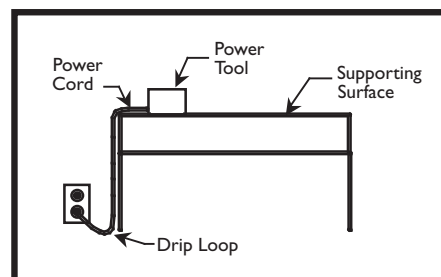


Fig. 3 Drip Loop Information

**! WARNING**

Use only extensions cords that are intended for outdoor use. These extension cords are identified by a marking “Acceptable for use with outdoor appliances; store indoors while not in use.” Use only extension cords having an electrical rating not less than the rating of the product. Do not use damaged extension cords. Examine extension cords before using and replace if damaged. Do not abuse extension cords and do not yank on any cord to disconnect. Keep cords away from heat and sharp edges. Always disconnect the extension cord from the receptacle before disconnection the product form the extension cord.

**! WARNING**

To reduce the risk of electrocution, keep all connections dry and off the ground. Do not touch the plug with wet hands.

**! WARNING**

Use of undersize extension cords result in low voltage to the motor that can result in motor burnout and premature failure. MK Diamond warns that equipment returned to us showing signs of being run in a low voltage condition, through the use of undersized extension cords will be repaired or replaced totally at the customers expense. There will be no warranty claim.

To choose the proper extension cord,

- Locate the length of extension cord needed in table below.
- Once the proper length is found, move down the column to obtain the correct AWG size required for that length of extension cord.

**NOTICE**

Most Motor Problems are caused by improper voltage and extension cords. Cord should be one-piece and short as possible. Cord selection should match the following table.

1-2 H.P.			
115v	230v		
25'	100'	Max. Cord Length	No. 12 Wire
50'	150'	Max. Cord Length	No. 10 Wire
75'	250'	Max. Cord Length	No. 8 Wire

Fig. 4 Extension Cord Table

**LOCK OUT METHOD**

In order to help prevent accidental starting and to help make your work area “kidproof,” this machine is provided with a means to deactivate the functioning of the motor switch. The switch is equipped with a lockout tab that can be used with a lock to prevent movement of the switch. With the switch unable to move the motor cannot be turned on. Removing the lock reactivates the switch.



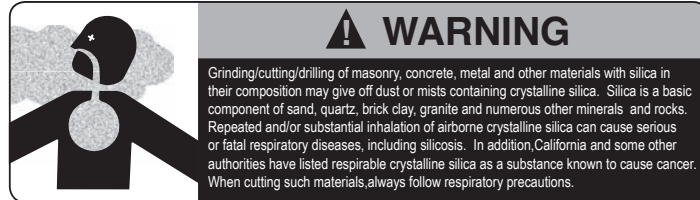
Fig. 5 MKDX Lock Out

**OPERATION & SAFETY DECALS**

The MKDX is equipped with a number of safety decals (Figure 5) provided for operator safety and maintenance information. Should any of these decals become unreadable, replacements can be obtained by calling (800) 262-1575.



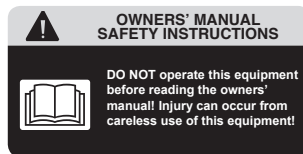
Decal A



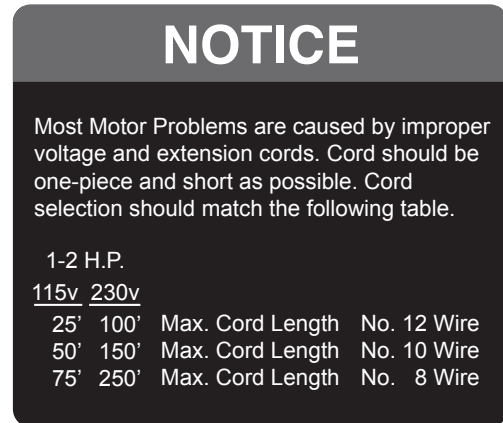
Decal B



Decal C



Decal D



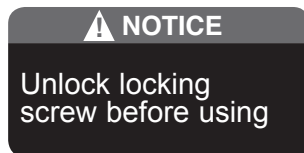
Decal E



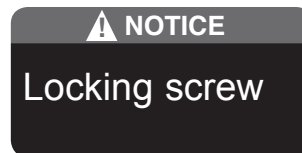
Decal F



Decal G



Decal H



Decal I

Fig. 6 MKDX Safety Decal Sheet, Part No. 166256

## SAFETY DECAL LOCATIONS

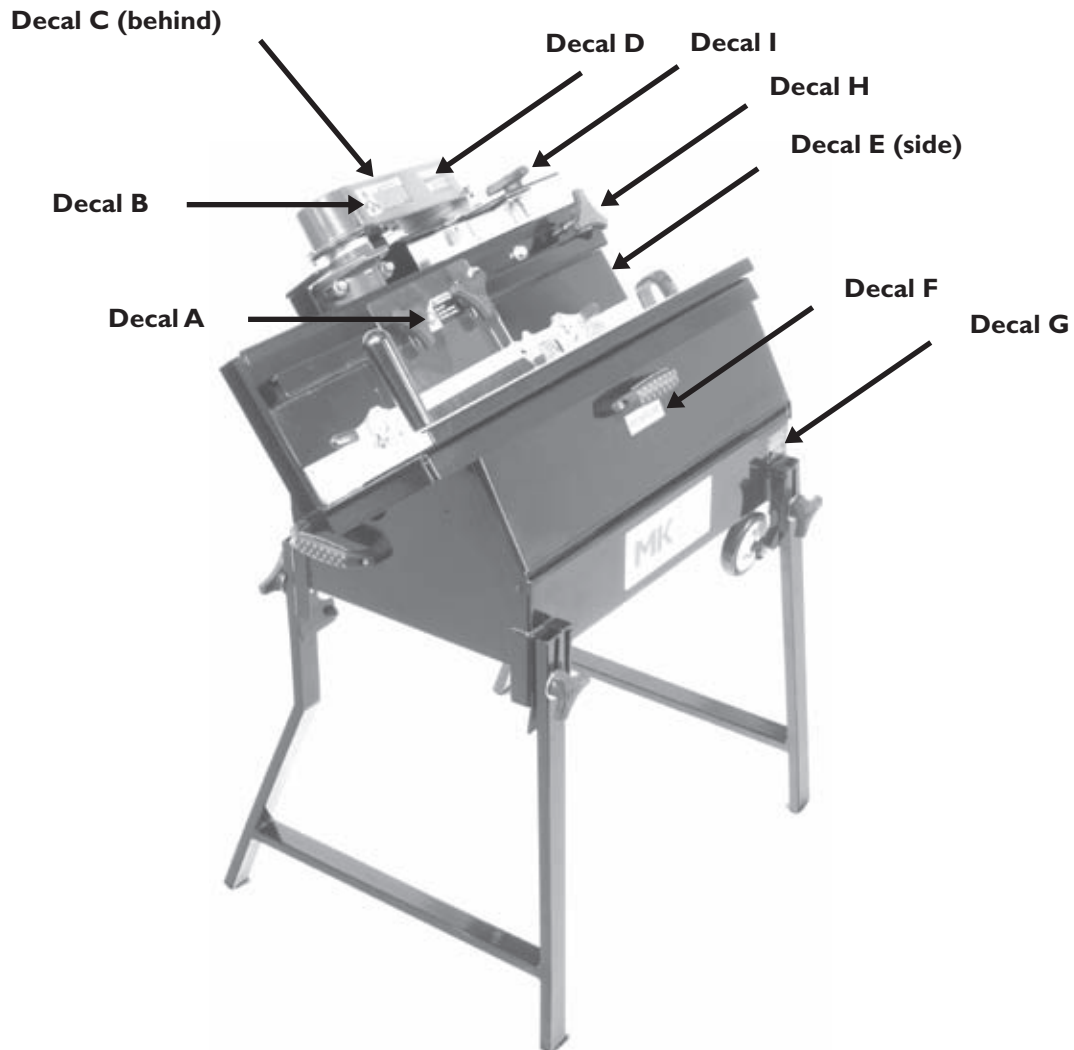







Fig. 7 MKDX Safety Decal Locations

Decal	Location	Description
A	Machine Front	Caution Guards in Place
B	Belt Guard	Warning Silica Dust Hazard
C	Machine Top	Notice Do Not Overtension Belts
D	Belt Guard	Warning Read Manual Before Operating Equipment
E	Machine Side	Notice Extension Cord Warnings
F	Water Tank	Keep Door Closed
G	Machine Front	Service or Warranty Information
H	Machine Front	Unlock Locking Screw
I	Machine Front	Locking Screw

<b>MKDX Specifications</b>	
<b>Model</b>	MKDX
<b>Weight</b>	79 kg (173 lbs.)
<b>Tank Capacity</b>	3 gal. (14 liters)
<b>Speed</b>	4,500 min <sup>-1</sup>
<b>Drive Belt Type</b>	Micro V
<b>Arbor Size</b>	5/8"
<b>Speed Ratio of Motor to Wheel</b>	1:1.6
<b>Standard Length of Bullnose</b>	14"
<b>Maximum Length of Bullnose and Shaping:</b>	14" with optional 24"
<b>Maximum Depth of Shaping:</b>	15 mm
<b>Maximum Shaping Radius:</b>	15 mm
<b>Maximum Cutter Diameter</b>	120 mm
<b>Maximum Shaping Thickness</b>	20 mm
<b>Maximum Shaping Length</b>	610 mm

## Type of Profile Wheel Suggested

Profile Wheel	Name	Grit	Description	Item #
	<b>Segmented - Coarse</b>	30/40	10mm Radius Bullnose B-Profile	165759
		30/40	15mm Radius Bullnose B-Profile	165760
		30/40	45° 10T Bevel E-Profile	165762
		30/40	45° 15T Bevel E-Profile	165763
		30/40	90° Square Cutter	166021
	<b>Sintered - Medium</b>	60/80	10mm Radius Bullnose B-Profile	165764
		60/80	15mm Radius Bullnose B-Profile	165765
		60/80	45° 10T Bevel E-Profile	165767
		60/80	45° 15T Bevel E-Profile	165768
	<b>Plated - Fine</b>	140/170	10mm Radius Bullnose B-Profile	166077
		140/170	15mm Radius Bullnose B-Profile	166078
		140/170	45° 10T Bevel E-Profile	166079
		140/170	45° 15T Bevel E-Profile	166080
	<b>Resin Bond - Polish</b>	400	10mm Polishing Wheel	165769
		800	10mm Polishing Wheel	166082
		1500	10mm Polishing Wheel	166083
		1800	10mm Polishing Wheel	166084
		3500	10mm Polishing Wheel	166085
		400	15mm Polishing Wheel	165770
		800	15mm Polishing Wheel	166087
		1500	15mm Polishing Wheel	166088
		1800	15mm Polishing Wheel	166089
		3500	15mm Polishing Wheel	166090
	<b>Resin Bond - Buff</b>	Buff	10mm Polishing Wheel	166081
		Buff	15mm Polishing Wheel	166086

## BASIC COMPONENTS

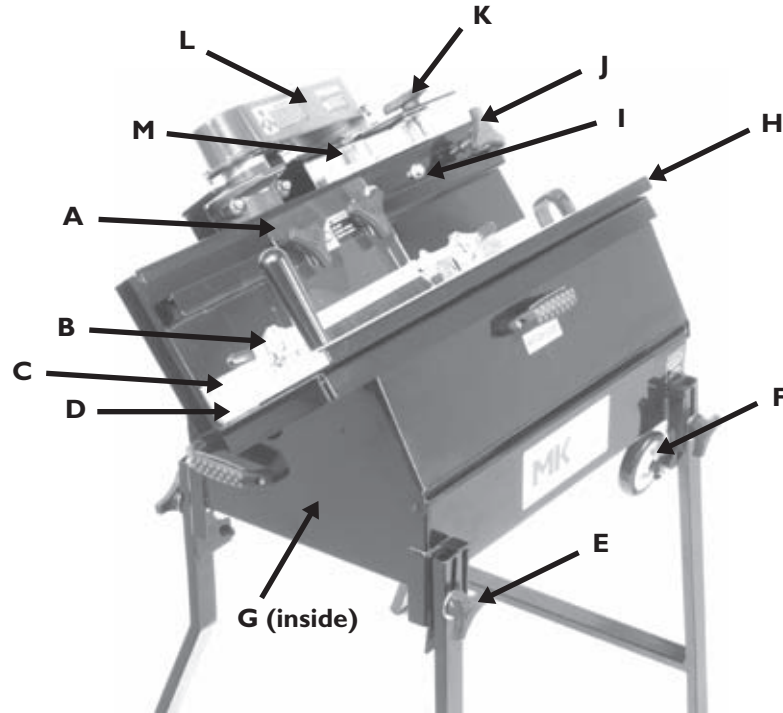
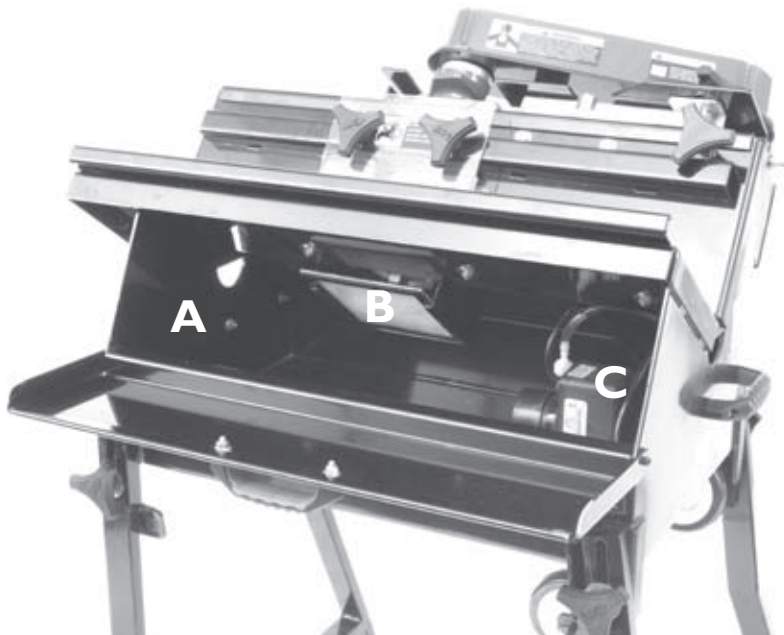


Fig. 8 Basic Machine Components

- A. **Spray Guard** – Adjusts to protect user from flying debris and spray
- B. **Material Clamp** – Configures to material size for lockdown
- C. **Wear Bar** – Material slides along bar during shaping
- D. **Material Slide** – Secures material and moves along shaping wheel
- E. **Leg Adjustment Knob** – Locks legs in place after adjusting for height
- F. **Wheel** – Transports unit on ground
- G. **Water Tank** – Filled for water system
- H. **Material Slide Guide** – Adjust to keep material slide in place
- I. **Material Course Adjustment Bolt** – Use for major adjustment of vertical position to material
- J. **Material Height Adjustment Bolt** – Use for horizontal adjustment position to material
- K. **Material Height Lock** – Unlocks/locks Material Height Adjustment in place
- L. **Belt Guard** – Protects user from moving parts
- M. **Material Fine Adjustment** – Use for minor adjustment of vertical position to material

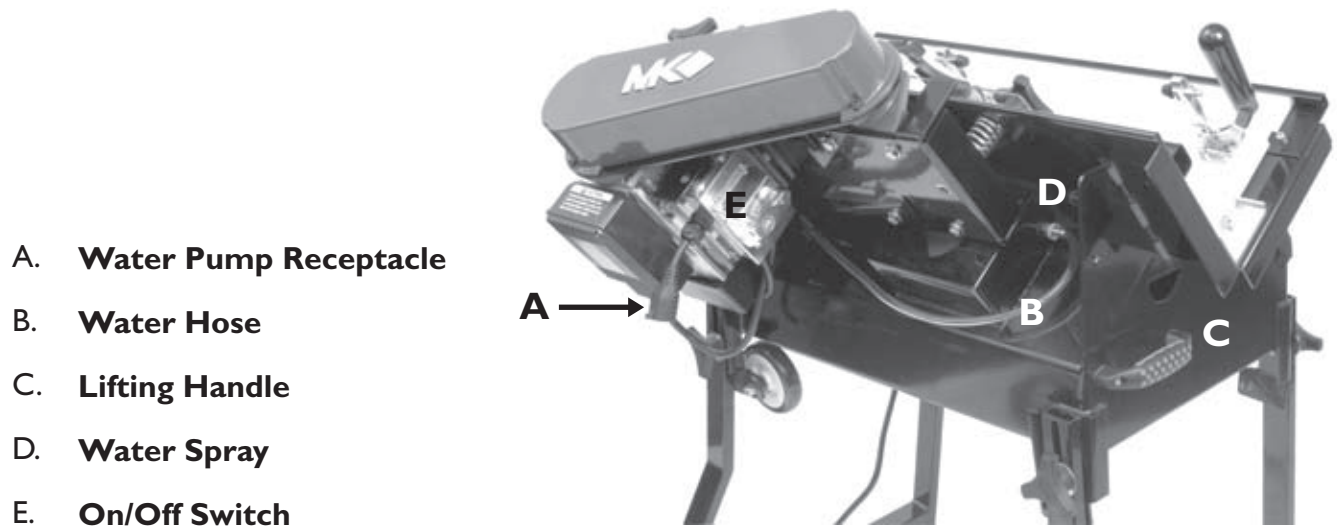


## BASIC COMPONENTS



- A. **Drain Plug**
- B. **Water Filter**
- C. **Water Pump**

Fig. 9 Basic Machine Components



- A. **Water Pump Receptacle**
- B. **Water Hose**
- C. **Lifting Handle**
- D. **Water Spray**
- E. **On/Off Switch**

Fig. 10 Basic Machine Components

## SAFETY DEVICES

### **WARNING**

Never run the machine if its guards and safety devices have been tampered with or removed, or are not in working order.

The protection systems:

- A) Power Switch
- B) Spray Guard
- C) Belt Guard

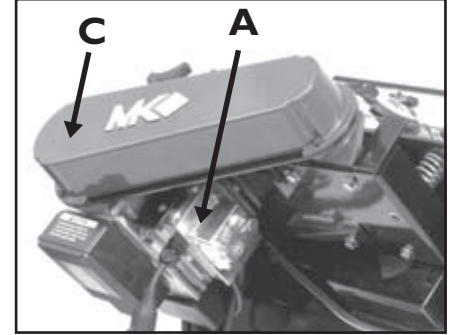
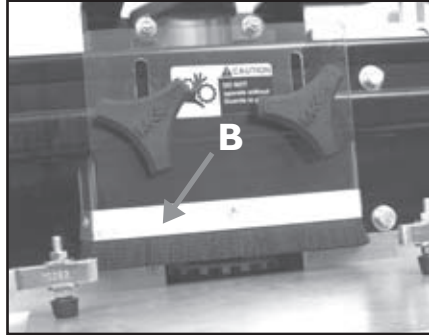


Fig. 11 Safety Devices

## FOOT PEDAL SWITCH

A foot pedal switch has been included for easy on/off of the MKDX (Figure 12).

1. Place Plug/Receptacle of foot pedal switch into power source (110V).
2. Plug MKDX machine's power cord into receptacle of foot pedal switch. (Figure 13).
3. Place foot pedal in desired location for easy on/off actuation of MKDX machine.
4. Turn on the MKDX machine power switch. It must be turned and left in the on position in order to use the foot pedal switch.
5. The MKDX power switch should be turned off when machine is not being used and before unplugging the MKDX machine from the foot pedal receptacle.

### **WARNING**

Be sure to keep the plug/receptacle out of water.



Fig. 12 Foot Pedal Switch



Fig. 13 Plug Cord into Switch

## MANUAL HANDLING

- To shift the machine, raise one side at a time while keeping hand on lifting handle of the side being raised, to support the unit's weight.
- Be sure to drain any water in tank.

### **WARNING**

Two people are recommended to move and set up this machine.

## UNPACKING & MACHINE SET-UP

1. Remove carton top and shipping strap (Figure 14).
2. Remove machine from pallet by tipping it onto the wheels and rolling onto flat surface. Check for broken or damaged parts (Figure 15).
3. Remove material slide. (Figure 16).



Fig. 14 Remove carton and strap



Fig. 15 Move and inspect



Fig. 16 Remove material slide

4. Two people are needed for set up. Loosen the leg knobs on motor side and pull the leg upwards until it stops. Then give it a 90° turn (Figure 17).
5. With one person holding up the other end of the machine, repeat extending leg procedure (Figure 18).
6. Tighten leg knobs (Figure 19).



Fig. 17 Adjust legs



Fig. 18 Extend legs



Fig. 19 Tighten knobs

- Before using the machine, check for any broken, worn or damaged parts and replace them immediately.
- **ALWAYS** keep the machine clean and lubricated.
- **ALWAYS** unwind the power supply cord completely and check for damage.
- Carefully check the “Technical Data” Label before plugging in the machine. Follow the extension cord requirements, as recommended on the machine label.
- Work on a level and clean surface.

## WORKSTATION

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### DANGER

The MKDX is designed for on-site fabrication. Operator should be familiar with all operations of the machine prior to use and should read this Owner's Manual before use.

While the machine is running, **NEVER** reach into the shaping zone.

- During operation, the operator should stand in front of the machine.
- When shaping, one hand should be holding the back handle and the other hand should grip the front vertical handle of the material slide (Figure 20).



Fig. 20 Safety in the Workstation

## INSTALLING/CHANGING SHAPING WHEELS



**Fig. 21 Shaping Wheel Components**

1. Remove water filter to access shaft (Figure 22).
2. Place Shaping Wheel (A) on shaft, followed by Spring Washer (B), Flat Washer (C) and Nut (D) (Figure 23).
3. Center Spring Nut (B) and Flat Washer (C) on shaping wheel while tightening Nut (D) (Figure 24).
4. Top nut is left hand thread. Bottom nut is right hand thread (Figure 25).
5. Ensure shaping wheel is installed tightly (Figure 26).
6. Replace filter.



**Fig. 22 Remove filter**



**Fig. 23 Place Shaping Wheel**



**Fig. 24 Tighten Nut**



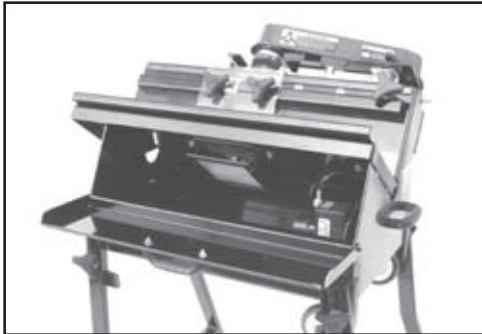
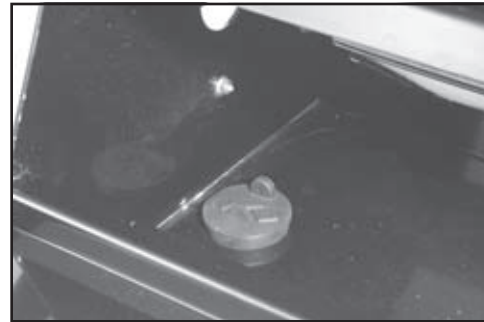
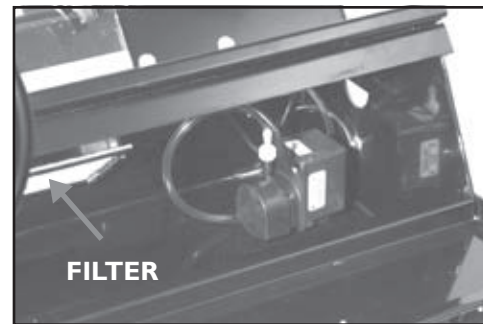
**Fig. 25 Nut Threads**



**Fig. 26 Tighten Shaping Wheel**

**WATER TANK FILLING**

1. Open water tank by pulling down handle (Figure 27).
2. Ensure drain plug is tightly in place (Figure 28).
3. Pour clean water into the machine's tank until water line reaches the water hose fitting (Figure 29).
4. Do not let water fill past filter (Figure 30).
5. After filling tank, plug in water pump (Figure 31).

**Fig. 27 Open Water Tank****Fig. 28 Inspect Drain Plug****Fig. 29 Do not fill past here****Fig. 30 Add clean water****Fig. 31 Plug in water pump**

## CLAMPING THE MATERIAL

### DANGER

Before performing any operation, make sure that the machine is unplugged.

### NOTICE

If the material is correctly positioned against the stainless steel rests and firmly clamped in place, shaping will be accomplished perfectly.

### WARNING

Before performing your shaping, make sure the profile wheel is sharp, correctly positioned and firmly secured in place.

Adjusting the clamps is a two step process. First the clamps must be moved to the appropriate hole locations and then the clamps height needs to be adjusted based on the thickness of material.

### ADJUSTING FOR SIZE

1. Place the material on the material slide (Figure 32).
2. Determine correct hole locations for clamps based on the size of the material (Figure 33).
3. Clamps may be rotated 90° for smaller strips. Move clamps to proper locations in order to secure material (Figure 34).
4. Clamps may be moved further apart for larger materials (Figure 35).
5. Use wrenches to remove bolts and nuts to move clamps to desired positions. (View) Bottom of the material slide (Figure 36).
6. Vertical handle may be moved for different sized pieces.



Fig. 32 Material Slide

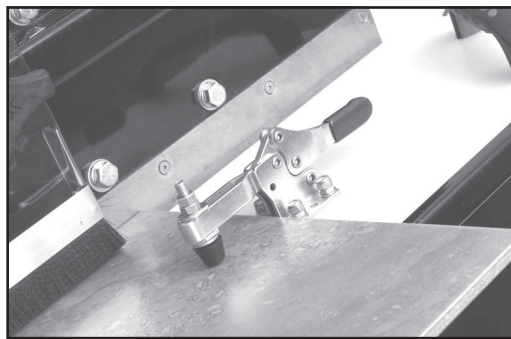


Fig. 33 Determine hole locations



Fig. 34 Determine clamp position

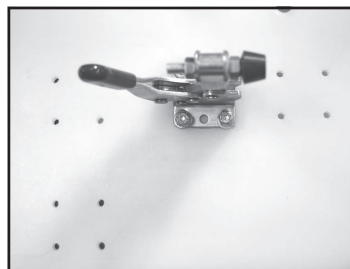


Fig. 35 Top view

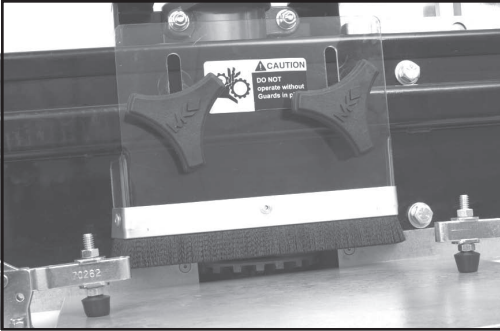


Fig. 36 Bottom view

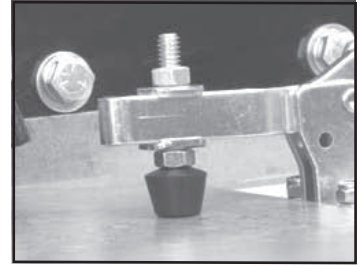
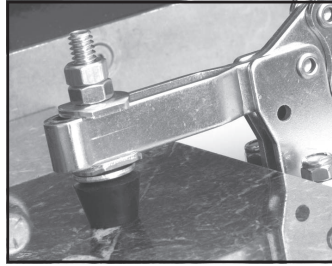
## CLAMPING THE MATERIAL

### ADJUSTING FOR THICKNESS

1. Lower the clamps. The material must be firmly secured in place by a minimum of two clamps (Figure 37).
2. Adjust height of clamp by loosening the nuts. You may remove or add washers to ensure a tight fit (Figure 38).



**Fig. 37 Lower the clamps**



**Fig. 38 Adjust height of clamps to ensure a tight fit**



## PROFILE WHEEL ADJUSTMENT

### WARNING

Before performing any operation, make sure that the machine is unplugged.

The profile wheel adjustment is a two step process. There is the vertical adjustment for the width of the material and the horizontal adjustment for the thickness.

### Profile Wheel Adjustment

1. Remove spray guard. Unlock horizontal lock bolt (Figure 39).
2. For major vertical adjustments, loosen/tighten course vertical adjustment bolts (Figure 40).
3. Sight down the material slide to gauge the wheel location to material (Figure 41).

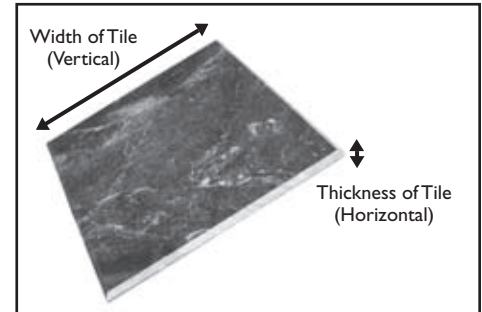


Fig. 39 Unlock lock bolt



Fig. 40 Vertical adjustment bolts



Fig. 41 Gauge wheel location

4. Profile wheel should be touching material. Only a gentle pressure should be needed when pushing material slide through for shaping. **DO NOT** force the piece through or readjusting may be needed (Figure 42).
5. Adjust horizontal bolt to material thickness. Be sure to tighten horizontal lock bolt when done (Figure 43).
6. Turn material fine adjustment bolt for minor vertical adjustment to material width (Figure 44).
7. Replace spray guard.

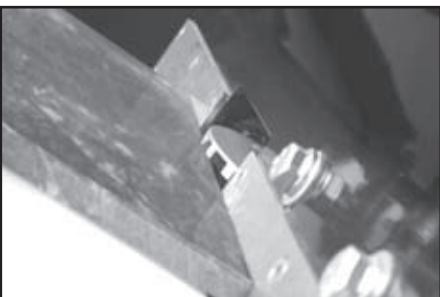


Fig. 42 Wheel touching material



Fig. 43 Adjust horizontal bolt



Fig. 44 Turn adjustment bolt

**SHAPING****WARNING**

Before starting your shaping, make sure the wheel is sharp, correctly positioned and firmly in place.

**WARNING**

Before shaping, make sure the handles and clamps are firmly secured to the material slide. To prevent material dislodging and motor overloading, the forward speed during the shaping must be proportional to the hardness and thickness of the material to be shaped. A gentle pressure should be applied. **DO NOT** force the piece through.

**Shaping**

1. Loosen spray guard knobs (Figure 45).
2. Move spray guard down so brush is touching material slide. Tighten down by turning knobs (Figure 46).
3. Turn on machine and check water is spraying on shaping wheel. With material clamped tightly in position and all adjustments made, place hands on handles as shown (Figure 47).

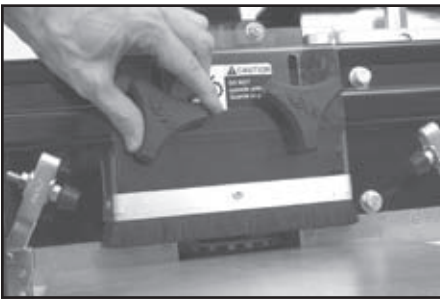


Fig. 45 Loosen spray guard knobs

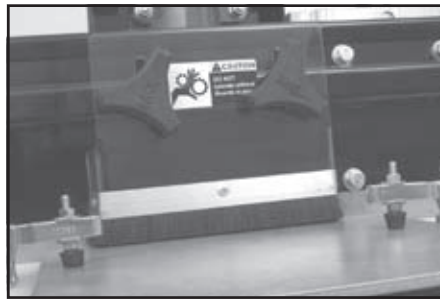


Fig. 46 Move spray guard down



Fig. 47 Place hands as shown

## SHAPING CONTINUED

### Shaping

4. Proceed by pushing material slide toward shaping wheel and move material completely through and pause (Figure 48).
5. Push material slide back in opposite direction completely through shaping wheel (Figure 49).  
**DO NOT** force through!
6. For finishing of material, change shaping wheel to finer grit and repeat material shaping process.

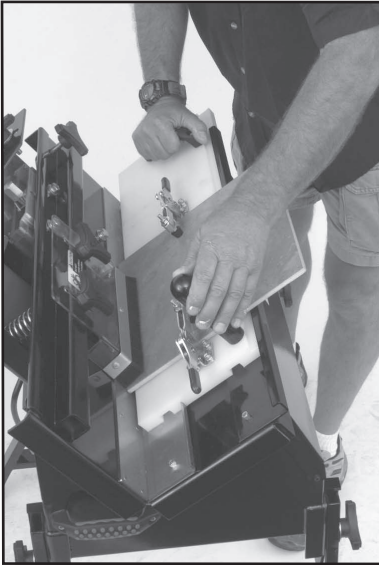


Fig. 48 Move material through



Fig. 49 Push in opposite direction

### **DANGER**

While the machine is running, never reach into the shaping area. Bear in mind the instructions given in the “Workstation” section (Page 20).

### **NOTICE**

If you notice that the shape is of poor quality, despite having followed all the above instructions, check the tightness of the clamps and sharpen the wheel with a sharpening stone.

### **DANGER**

After your work and before disengaging the piece from the clamps, turn off the machine by means of the power switch.

## CLEANING THE MACHINE



### DANGER

Before performing any operation, make sure that the machine is unplugged.

- Keep the material slide guide clean. Never use blasts of water, instead use a damp sponge.
- Lubricate the vertical adjustment guide.

## CLEANING THE TANK & FILTER

1. Open the water tank door. Remove the plug to empty the water (Figure 50).
2. Remove filter and clean off tile chip debris. (Figure 51). Check tank for other chips and debris, remove all.
3. Replace filter and plug.

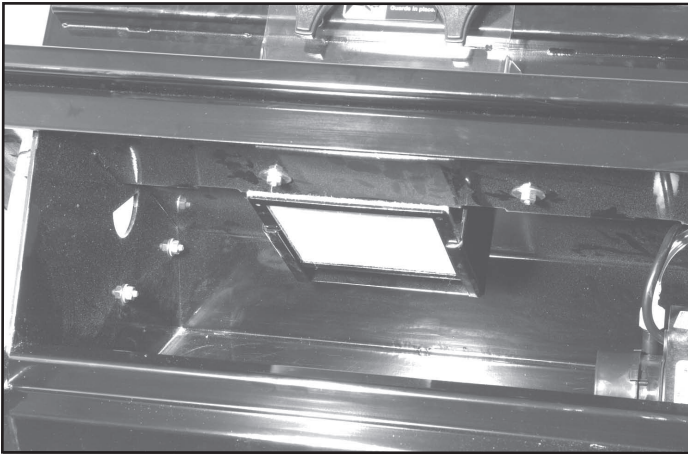


Fig. 50 Open water tank door and remove plug

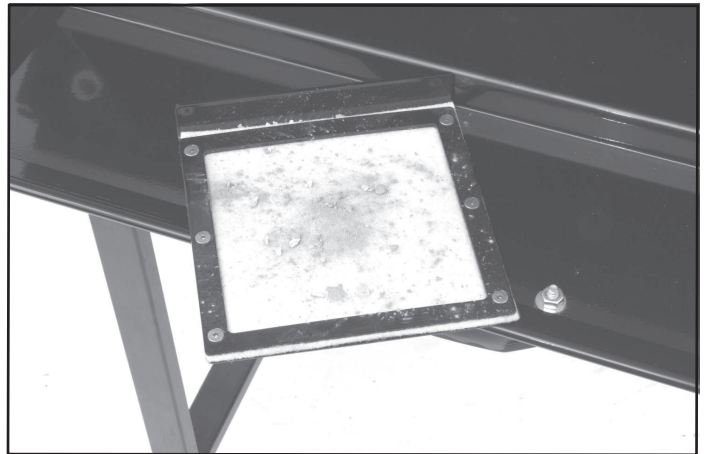


Fig. 51 Remove filter and clean off tile chip debris

## ADJUSTING THE SLIDING DEVICE

1. If you notice that the material slide guides have excessive clearance, the material slide has 8 screws that may need to be adjusted (Figure 52).
2. Loosen the screws. Move the guides closer to the wear bar to take up the clearance. Tighten the screws after adjustment (Figure 53).

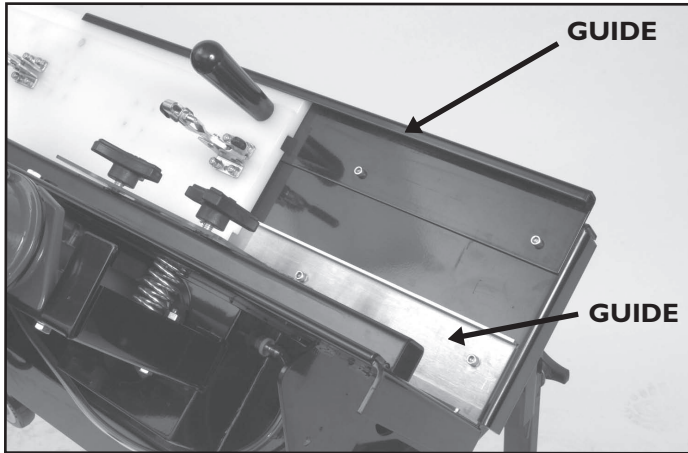


Fig. 52 Adjust material slide screws

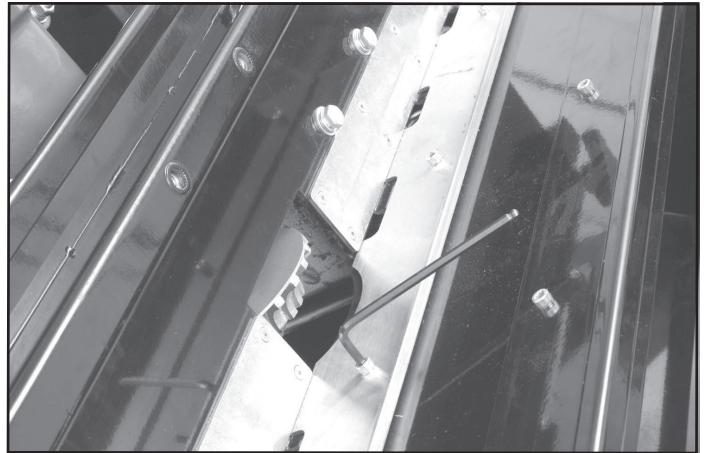
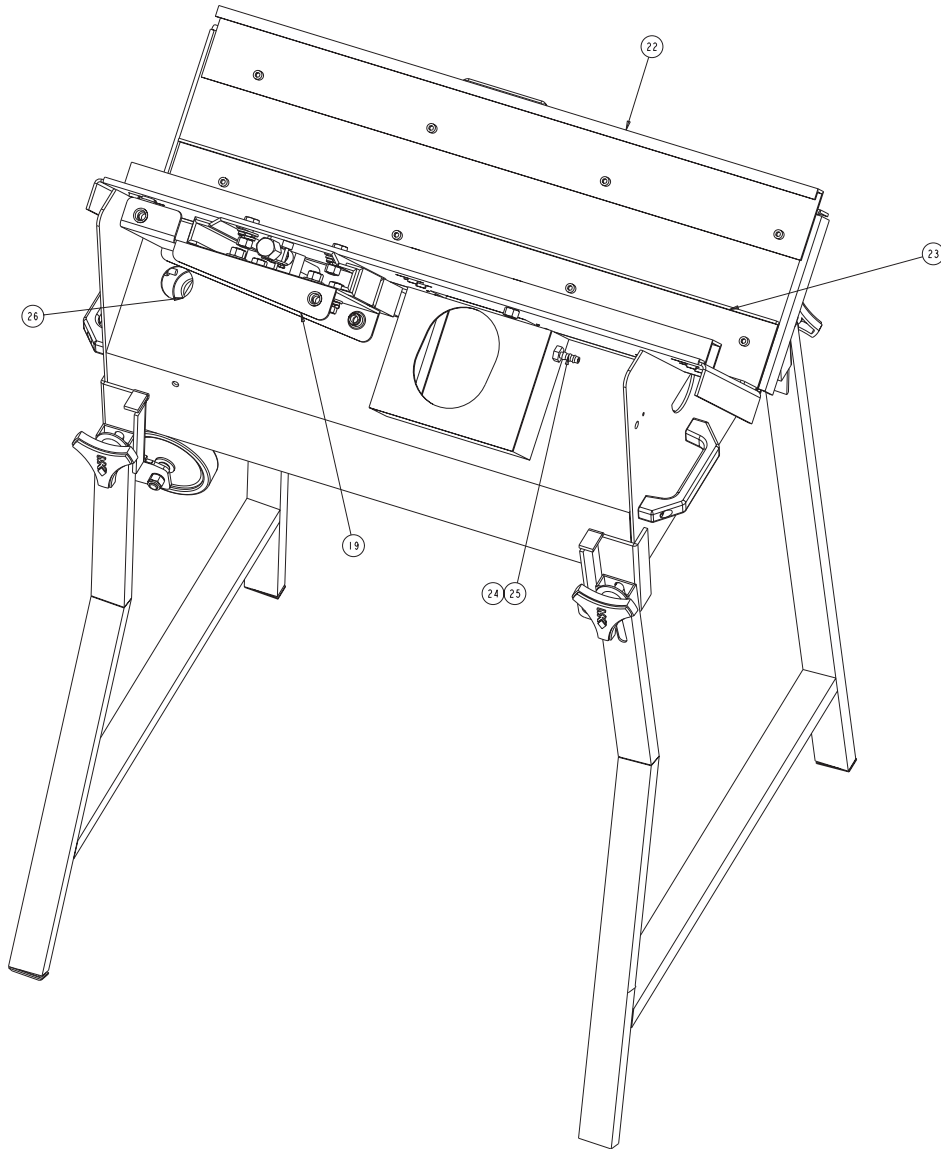


Fig. 53 Move glides closer to wear bar

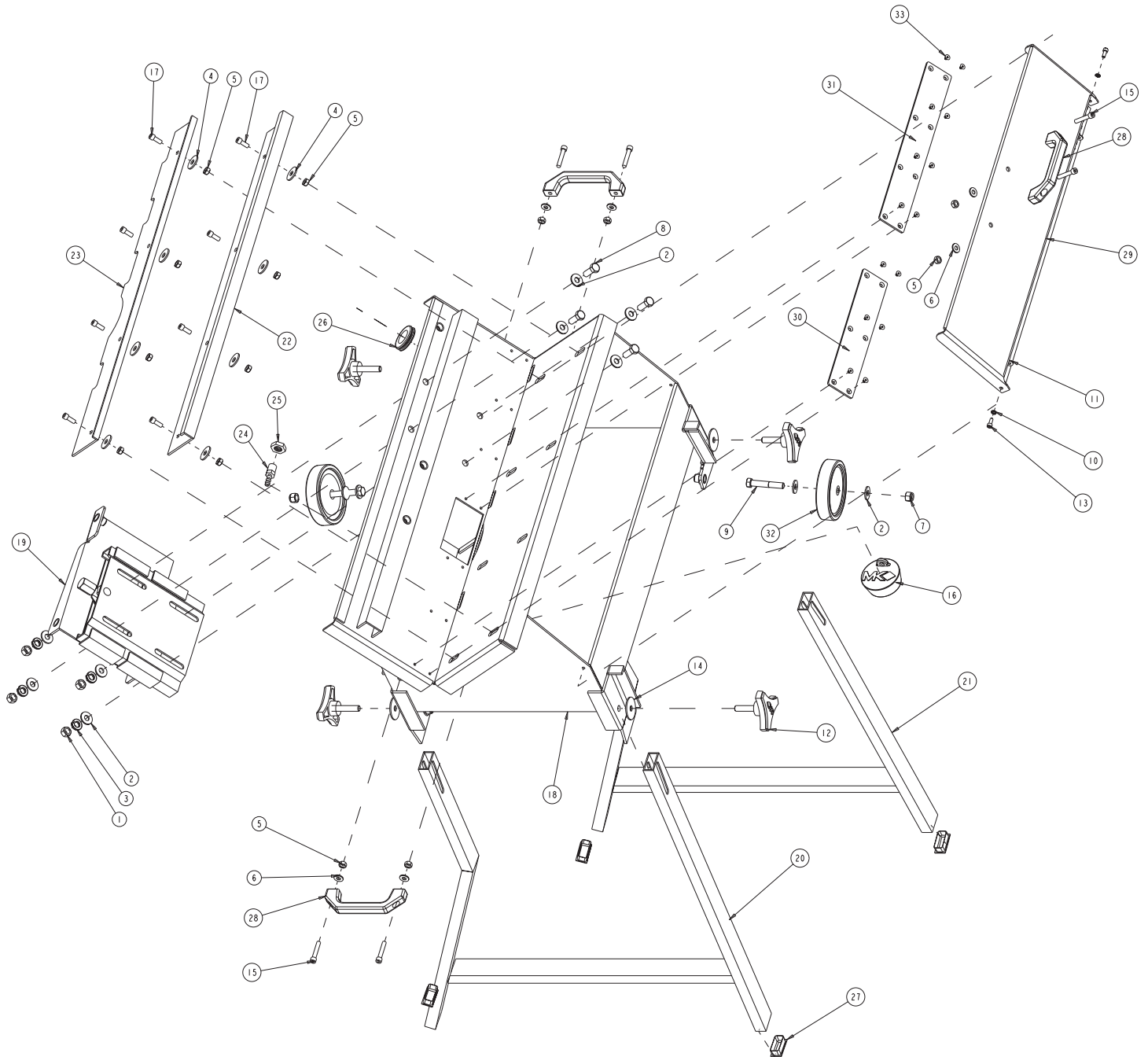
SPARE PARTS LIST - MKDX, BULLNOSE SUB ASSEMBLY - P/N 165175



(EXPLODED PARTS DIAGRAM CONTINUED ON THE NEXT PAGE)

SPARE PARTS LIST - MKDX, BULLNOSE SUB ASSEMBLY - P/N 165175

(EXPLODED PARTS DIAGRAM CONTINUED FROM THE PREVIOUS PAGE)

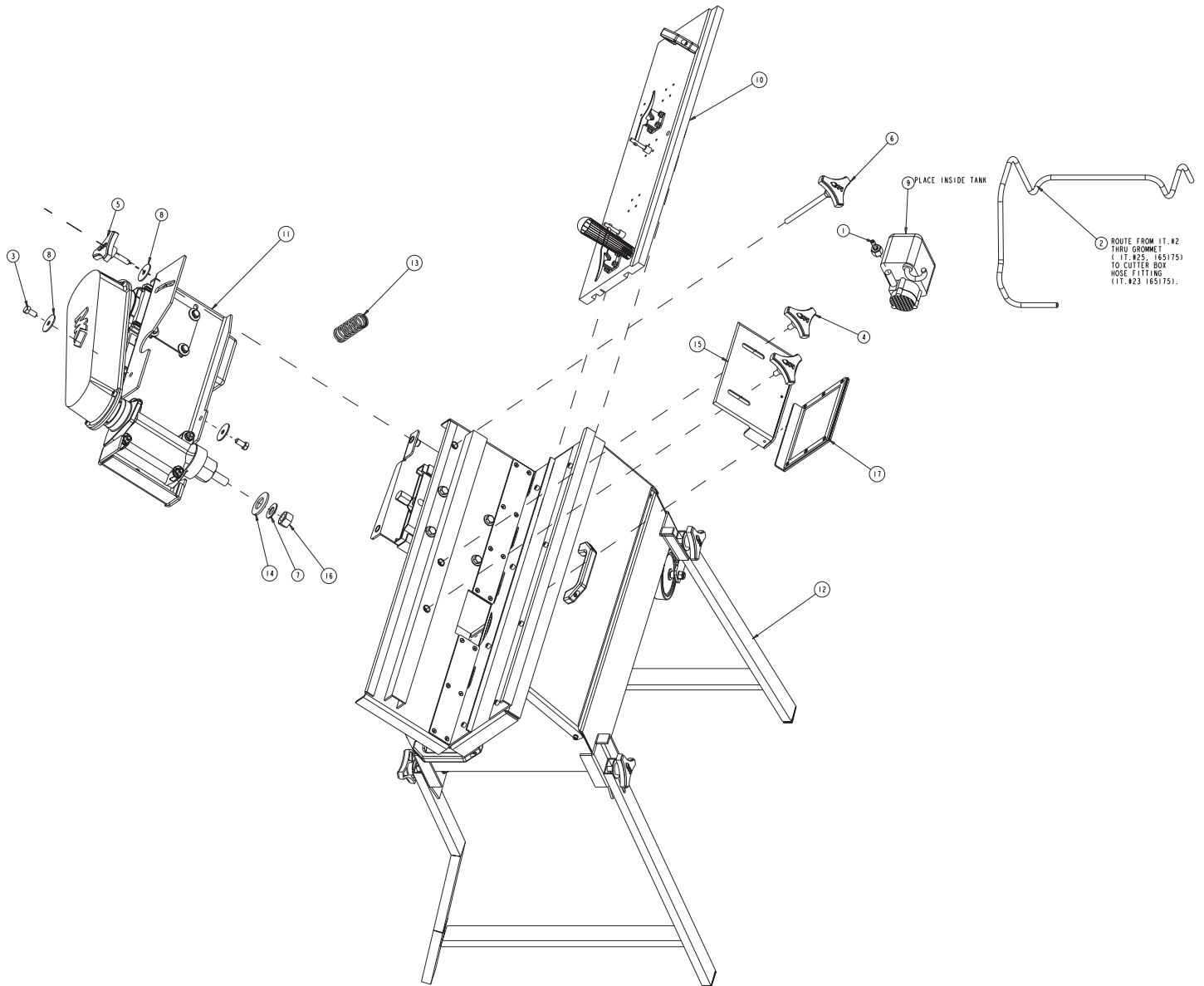


## SPARE PARTS LIST - MKDX, BULLNOSE SUB ASSEMBLY - P/N 165175

ITEM NO.	DESCRIPTION	PART OR IDENTIFYING NO.	QTY. REQ.
1	NUT, 3/8-16 HEX	101188	4
2	WASHER, 3/8 SAE FLAT	150923	12
3	WASHER, 3/8 SPLIT LOCK	150925	4
4	5/16 FENDER WASHER	151053	8
5	NUT, 1/4-20 HEX	151893	14
6	WASHER, 1/4 SAE FLAT	151915	6
7	NUT, 3/8-16 NYLOK HEX	152505	2
8	SCREW, HEX HD CAP, 3/8-16 X 1	152507	4
9	SCREW, 3/8-16 X 2 1/4 HEX HEAD	153529	2
10	WASHER, #10 SPLIT LOCK	153684	2
11	WASHER, #10 SAE FLAT	154369	2
12	KNOB, TRI PLASTIC, 1-1/2" LG.	156770-02	4
13	SCREW, 10-32 X 1/2 SOCKET HEAD SET	157525	2
14	WASHER, FENDER, 3/8 ID X 1-1/2 OD	158523	4
15	SCREW, SOC HD CAP, 1/4 20 X 1-1/4	159336	6
16	PLUG, 2 1/2 DIA RUBBER	159858	1
17	SCREW, 1/4 20 X 5/8 SOCKET HEAD CAP	161269	8
18	TRAY WELDMAT	165169	1
19	MOTOR GUIDE ASSEMBLY	165171	1
20	STAND WELDMAT "FRONT"	165173	1
21	STAND WELDMAT "REAR"	165174	1
22	GUIDE "C2"	165179	1
23	GUIDE "L"	165180	1
24	FITTING, PUSH ON HOSE 1/4 X 1/4 MALE	165183	1
25	NUT, BRASS 1/4 NPTF	165184	1
26	GROMMET	165185	1
27	PLUG, RECTANGLE	165186	4
28	HANDLE, PULL	165187	3
29	DOOR	165212	1
30	PROTECTIVE STRIP	165213	1
31	PROTECTIVE STRIP	165214	1
32	WHEEL, POLYURETHANE 4"	165274	2
33	FHCS #8-32 X 5/16"	165481	14



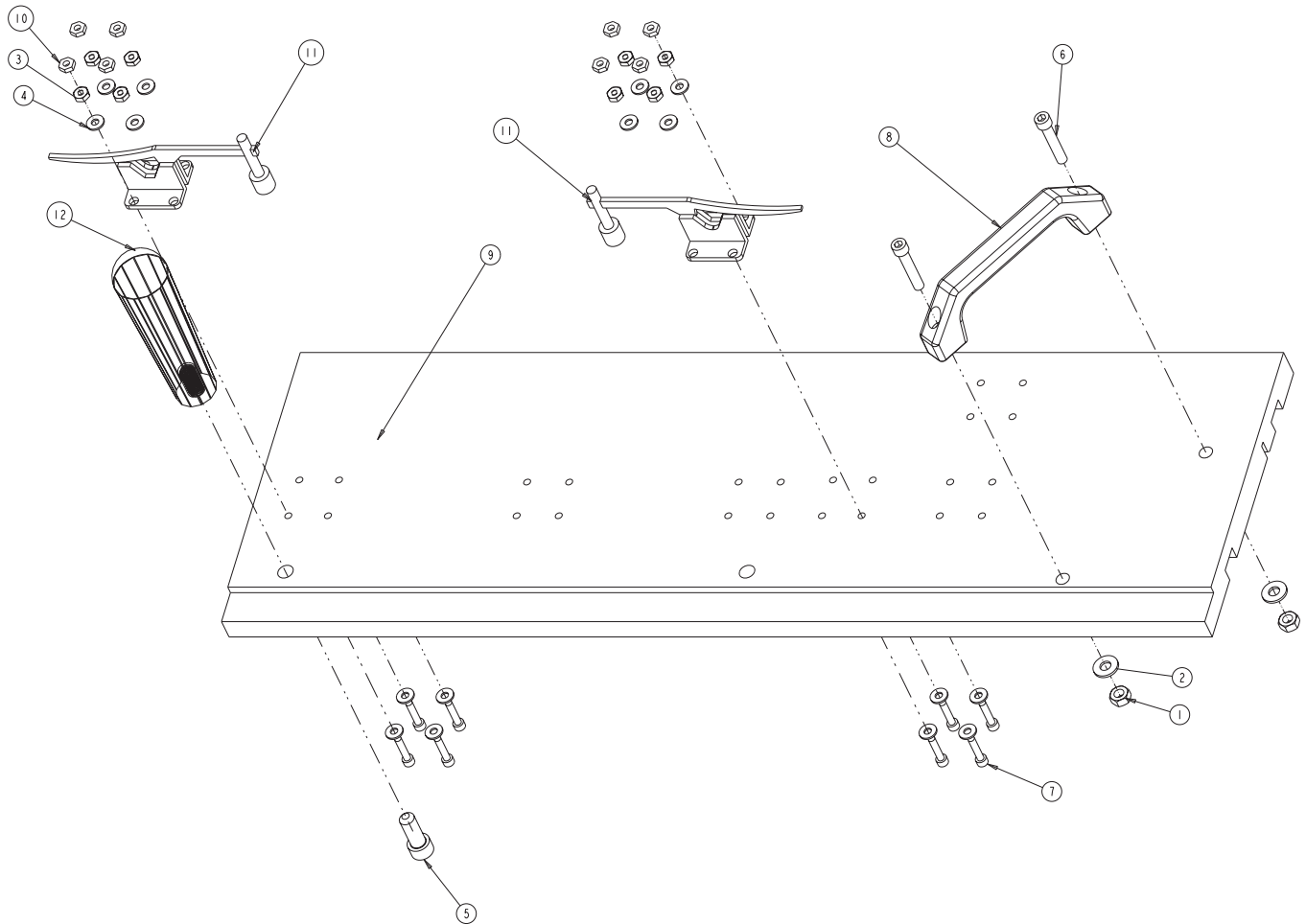
SPARE PARTS LIST - MKDX BULLNOSE TOP ASSEMBLY - P/N 165168



## SPARE PARTS LIST - MKDX BULLNOSE TOP ASSEMBLY - P/N 165168

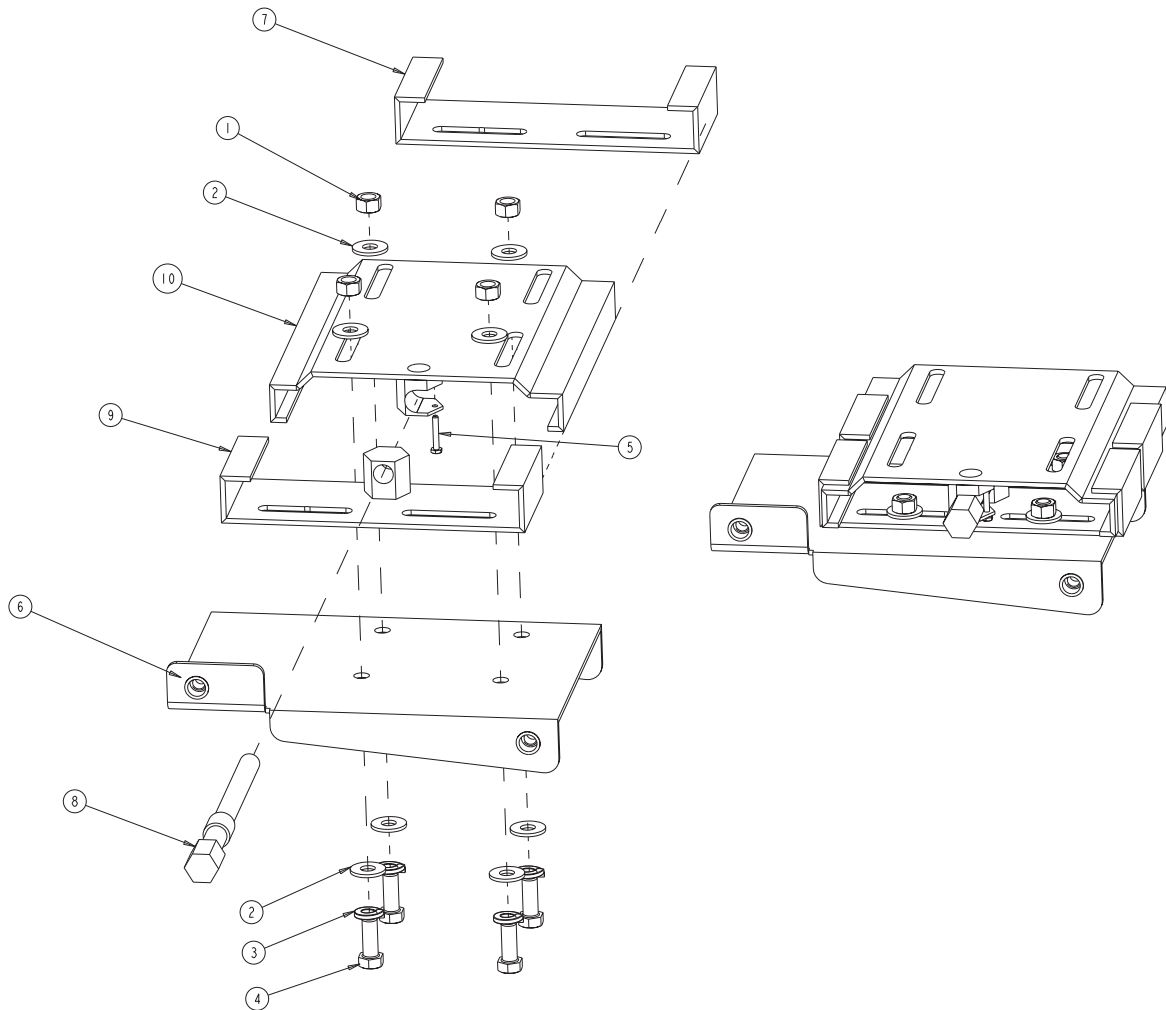
ITEM NO.	DESCRIPTION	PART OR IDENTIFYING NO.	QTY. REQ.
1	FITTING, PLASTIC, 1/4 FNPT X 1/4 BARB	128397	1
2	HOSE, VINYL, 3/8 X 1/4 X 6 FT	132951	1
3	SCREW, 3/8-16 X 3/4 HEX HEAD CAP	153527	2
4	KNOB, TRI PLASTIC MK-101 1"	156770-01	2
5	KNOB, TRI PLASTIC MK-660 1-1/2	156770-02	1
6	MK KNOB 6-1/2" LG.	156770-05	1
7	WASHER, FLAT 5/8 SAE	158350	1
8	WASHER, FENDER, 3/8 ID X 1-1/2 OD	158523	3
9	WATER PUMP 115V/60Hz 300 GPH	160509	1
10	MATERIAL SLIDE ASSY	165170	1
11	DRIVE TRAIN ASSEMBLY	165172	1
12	SUB ASSEMBLY ONE	165175	1
13	SPRING	165181	1
14	SPRING, BELLEVILLE DISC 2" O.D. X 1" I.D.	165182	1
15	CUTTER GUARD ASSEMBLY	165215	1
16	NUT, HEX JAM 5/8-11 UNC	165224	1
17	FILTER ASSEMBLY	165438	1

## SPARE PARTS LIST - PROFILING MACHINE MATERIAL SLIDE ASSY - P/N 165170



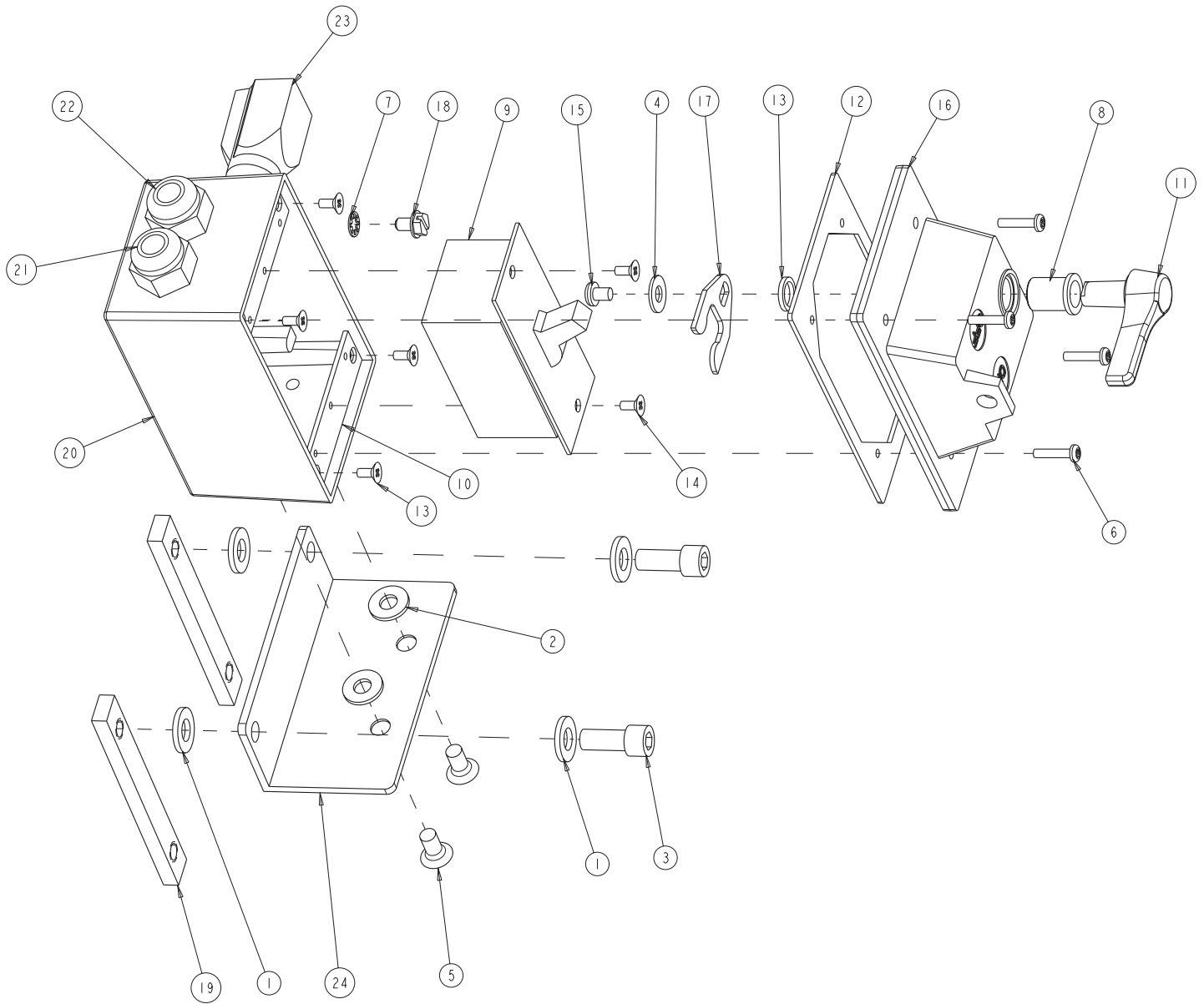
ITEM NO.	DESCRIPTION	PART OR IDENTIFYING NO.	QTY. REQ.
1	NUT, 1/4-20 HEX	151893	2
2	WASHER, 1/4 SAE FLAT	151915	2
3	NUT, #8-32 HEX	153549	8
4	WASHER, FLAT #8	155454	16
5	SCREW, SOCKET HEAD CAP 3/8-16 X 1	156602	1
6	SCREW, SOC HD CAP, 1/4-20 X 1-1/4	159336	2
7	SCREW, 8-32 X 3/4 SOCKET HEAD CAP	164594	8
8	HANDLE, PULL	165187	1
9	MATERIAL SLIDE	165188	1
10	NUT, HEX JAM NYLON #8-32, 18-8	165227	8
11	CLAMP, TOGGLE 200#	165273	2
12	HANDLE, VERTICAL	165474	1

**SPARE PARTS LIST - PROFILING MACHINE MOTOR GUIDE ASSEMBLY - P/N 165171**



ITEM NO.	DESCRIPTION	PART OR IDENTIFYING NO.	QTY. REQ.
1	NUT, 3/8-16 HEX	101188	4
2	WASHER, 3/8 SAE FLAT	150923	8
3	WASHER, 3/8 SPLIT LOCK	150925	4
4	SCREW, HEX HD CAP, 3/8-16 X 1	152507	4
5	SCREW, 6-32 X 7/8 HEX HEAD CAP	165178	1
6	SWIVEL MOUNT	165191	1
7	SLIDE	165193	1
8	SCREW ADJUSTMENT	165196	1
9	PULL SLIDE ASS'Y.	165580	1
10	MOUNT SLIDE ASS'Y.	165581	1

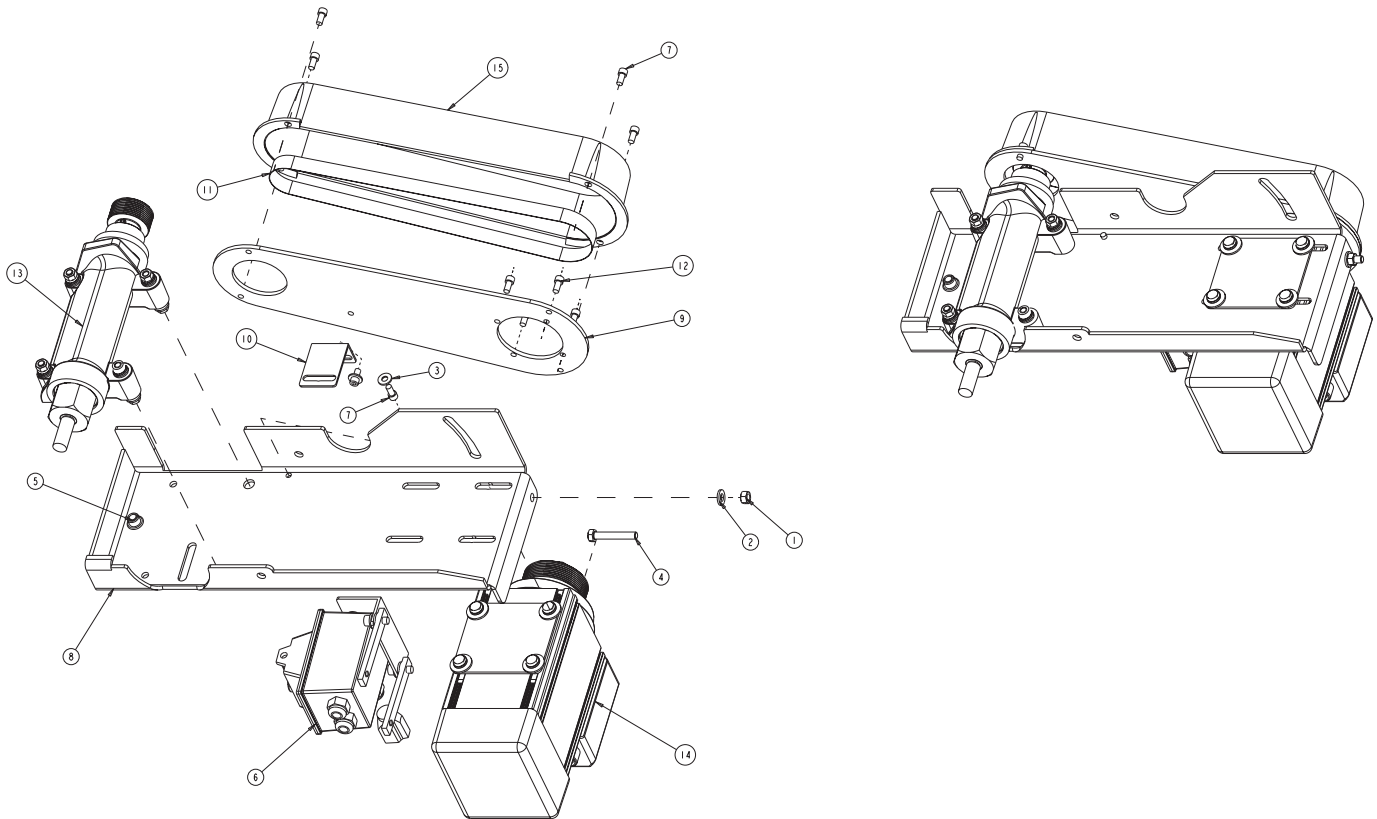
**SPARE PARTS LIST - BULLNOSE SWITCH ASSEMBLY - P/N 165176**



**SPARE PARTS LIST - BULLNOSE SWITCH ASSEMBLY - P/N 165176**

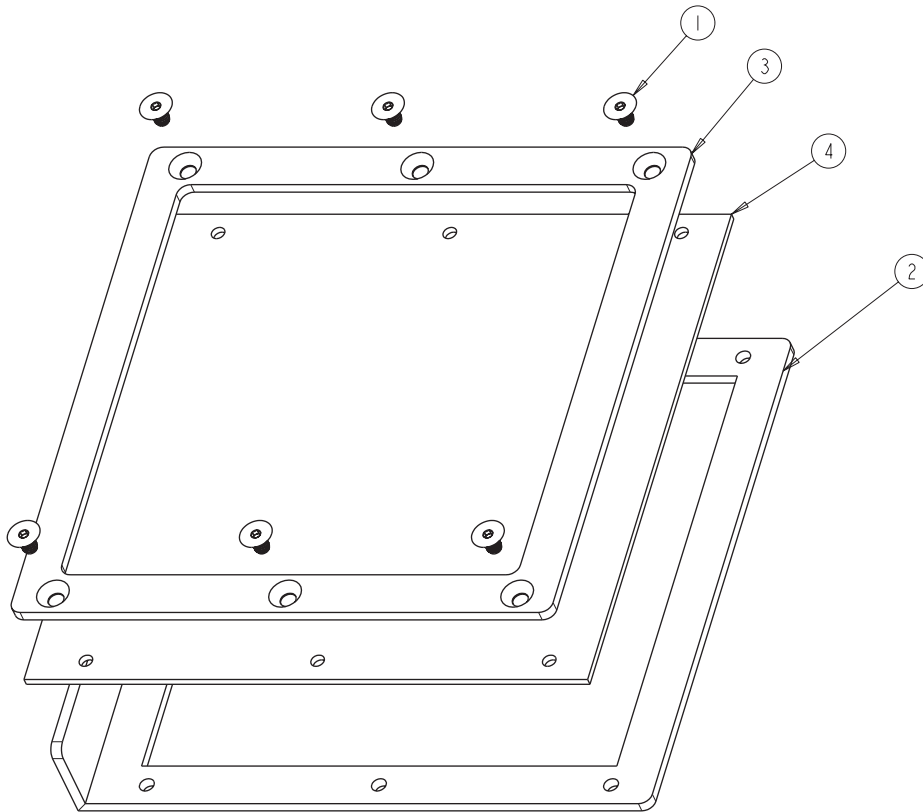
ITEM NO.	DESCRIPTION	PART OR IDENTIFYING NO.	QTY. REQ.
1	WASHER, 5/16 SAE FLAT	151754	4
2	WASHER, 1/4 SAE FLAT	151915	2
3	SHCS 5/16-18 X 3/4"	152444	2
4	WASHER, #10 SAE FLAT	154369	1
5	SCREW, FLAT HEAD 1/4-20 X 1/2	155812	2
6	SCREW, PAN HD PHIL 6-32 X 5/8	157393	4
7	WASHER, #10, INTERNAL TEETH	158336	1
8	BUSHING, SWITCH, 30 AMP	158799	1
9	SWITCH, 30 AMP MOTOR CONTROLLER	159488	1
10	PLATE, MOUNTING SWITCH	159489	2
11	LEVER, ON/OFF, 30 AMP SWITCH	159490	1
12	GASKET, COVER, 30 AMP SWITCH	159491	1
13	SEAL, LEVER, 30 AMP SWITCH	159492	1
14	SCREW, FLAT HD PHIL 6-32 X 5/16	159493	6
15	SCREW, PAN HD PHIL 10-24 X 5/16	159494	1
16	COVER, 30A SWITCH (COMP)	159539	1
17	LEVER,ACTUATOR (COMP)	159540	1
18	SCREW,HEX HD FL 10-24 X 5/16	159597	1
19	KEY, MOTOR MOUNT	159859	2
20	BOX, 30A SWITCH (COMP)	159865	1
21	MOTOR CORD	159907	1
22	POWER CORD	159908	1
23	PUMP CORD	159909	1
24	SWITCH BRACKET	165222	1
25	WIRE NUT 14/16 YELLOW	159968	1

## SPARE PARTS LIST - PROFILING MACHINE DRIVE TRAIN ASSEMBLY - P/N 165172



ITEM NO.	DESCRIPTION	PART OR IDENTIFYING NO.	QTY. REQ.
1	NUT, 5/16-18 HEX	101196	1
2	WASHER, 5/16 SAE FLAT	151754	1
3	WASHER, 1/4 SAE FLAT	151915	2
4	SCREW, HEX HEAD MACHINE 5/16-18 X 2	157938	1
5	INSERT, 3/8-16 AVK	158193	1
6	SWITCH ASSEMBLY	165176	1
7	SCREW, 1/4-28 X 1/2 SOCKET HEAD CAP	165177	6
8	DRIVE TRAIN MOUNT	165197	1
9	BELT GUARD PLATE	165202	1
10	BELT GUARD BRACKET	165203	1
11	BELT, MICRO V 32"	165210	1
12	SCREW, 1/4-20 X 1/2 SOCKET HEAD CAP	165211	4
13	ARBOR ASSEMBLY	165218	1
14	MOTOR ASSEMBLY	165219	1
15	BELT GUARD	165579	1

**SPARE PARTS LIST - PROFILING MACHINE FILTER ASSEMBLY - P/N 165438**



ITEM NO.	DESCRIPTION	PART OR IDENTIFYING NO.	QTY. REQ.
1	FILTER FRAME	165439	1
2	FILTER HOLDER BAR	165440	1
3	FHCS #8-32 X 5/16	165481	6
4	FILTER COMPLETE	165919	1





## ACCESSORIES, ORDERING AND RETURN INFORMATION

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### Ordering Information

You may order MK Diamond products through your local MK Diamond distributor or, you may order direct from MK Diamond.

NOTE: There is a \$25.00 minimum order when ordering direct from MK Diamond. All purchases must be made using VISA or MasterCard.

When ordering direct from MK Diamond, please have the following information ready before calling:

- The Model Number of the machine
- The Serial Number of the machine
- Where the machine was purchased and when
- The Part Number for the part(s) being ordered
- The Part Description for the part(s) being ordered

All parts may be order by calling toll free to **(800) 421-5830** or **(310) 539-5221** and asking for Customer Service. For technical questions, call **(800) 474-5594** or **(310) 257-2845**.

### Return Materials Policy

To expedite the service relative to the return of a product purchased through MK Diamond, please observe the following:

NOTE: When returning items, they must have been purchased within the previous twelve (12) months.

- Have the Model Number of the machine
- Have the Serial Number of the machine
- Have the location of where the machine was purchased and when
- Contact Customer Service for approval to return the item(s)
- Follow the packaging instructions in the following section
- Ensure your item(s) are prepaid to the destination

For returned items, call toll free to **(800) 421-5830** or **(310) 539-5221** and asking for Customer Service. For technical questions, call **(800) 474-5594** or **(310) 257-2845**.

### Packaging Instructions

- Package the part in its original container or one of comparable size
- Ensure all parts are secured in the packaging to prevent moving

### Authorized Service Centers

For quicker repair time, you may contact MK Diamond Customer Service, toll free at **(800) 421-5830** or **(310) 539-5221** for the Authorized Service Center closest too you. For technical questions, call **(800) 474-5594**.

**CONTACT:**

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Please contact MK Diamond Products, Inc. Customer Service Department with any questions you might have regarding distributors, parts or service.

Telephone: (800) 845-3729

Fax: (310) 539-5158

E-mail: Customer\_Service@MKDiamond.com

Customer Service Hours: Monday through Friday, 6AM-5PM PST

**MK Diamond Products, Inc.**  
**1315 Storm Parkway**  
**Torrance, CA 90501**

**MK DIAMOND PRODUCTS, INC. LIMITED WARRANTY**

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MK DIAMOND PRODUCTS, INC. will guarantee every machine they build, to be free from defects in material and workmanship for (1) one year from date of purchase. The obligation of MK DIAMOND PRODUCTS, INC. under this warranty is limited to the repair or replacement of any parts which, under normal use, prove to be defective in material or workmanship. The parts involved or the unit in question should be returned to MK DIAMOND PRODUCTS, INC. or to a point designated by us, transportation prepaid.

This warranty does not obligate us to bear the cost of labor or transportation charges in connection with replacement or repair of defective parts. Likewise, it shall NOT apply to any unit which has been subjected to misuse, neglect or accident. This warranty does NOT apply to any machine which has been repaired or altered outside our factory.

This warranty does NOT obligate MK DIAMOND PRODUCTS, INC., with respect to items not of our manufacture, such as engines, motors, hydraulics, etc., which are subject to their own guarantees and warranties.

We shall in no event be liable for consequential damages or contingent liabilities arising out of failure of any equipment or parts to operate properly.

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This manual MUST accompany the equipment at all times. This manual is considered a permanent part of the equipment and should remain with the unit if resold.

The information and specifications included in this publication were in effect at the time of approval for printing.