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# MKDX BULLNOSE & SHAPING MACHINE OPERATION & PARTS MANUAL



Revision 105	03.2010
Manual Part# 166106	

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



MK Diamond Products, Inc.

## INTRODUCTION

Congratulations on your purchase of a MKDX Bullnose. We are certain that you will be pleased with your purchase. MK Diamond takes pride in producing the finest construction power tools and diamond blades in the industry.

Operated correctly, your MKDX Bullnose should provide you with years of service. In order to help you, we have included this manual. This owners manual contains information necessary to operate and maintain your MKDX Bullnose safely and correctly. Please take the time to familiarize yourself with the MKDX Bullnose by reading and reviewing this manual.

Read and follow all safety, operating and maintenance instructions.

If you should have questions concerning your MKDX Bullnose, please feel free to call our friendly customer service department at: 800 421-5830

Regards,

MK Diamond

### NOTE THIS INFORMATION FOR FUTURE USE:

<b>MODEL NUMBER:</b>	
<b>SERIAL NUMBER:</b>	
<b>PURCHASE PLACE:</b>	
<b>PURCHASE DATE:</b>	

**NOTE:** For your (1) one year warranty to be effective, complete the warranty card (including the Serial Number) and mail it in as soon as possible.

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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, contact MK Diamond or your dealer for replacement.

**SILICA DUST WARNING**

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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**

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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.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

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



**ALWAYS** 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.



**ALWAYS** 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. The tool has a grounding plug that looks like the plug illustrated in Sketch A. 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.

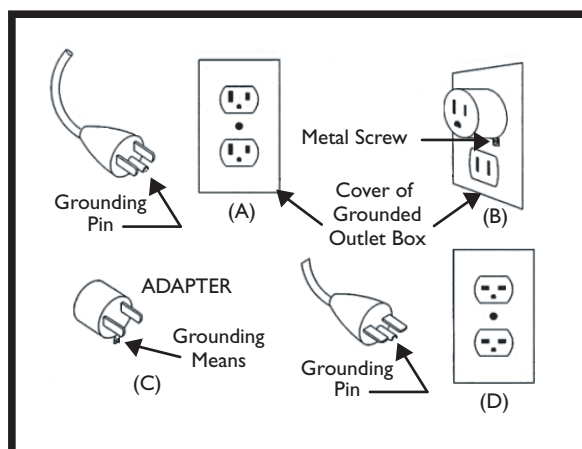


Fig. 1 Circuit and Adapter Information

## 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 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.

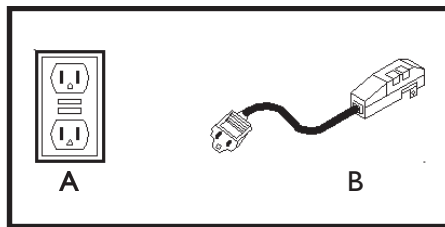


Fig. 2 GFCI Outlet

## 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.

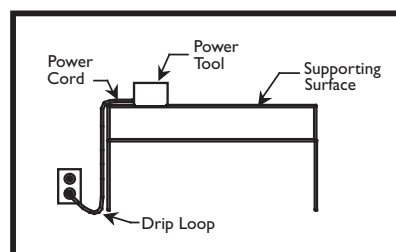


Fig. 3 Drip Loop Information

## WARNING

Use only extension 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.

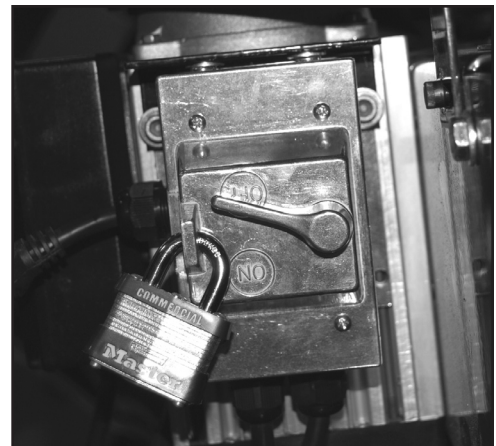


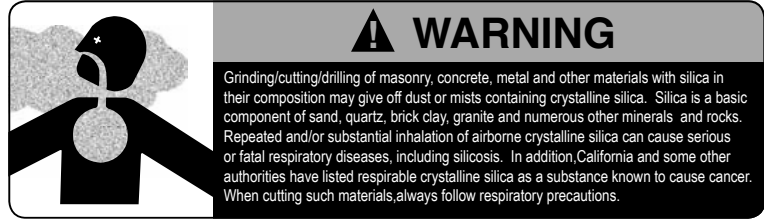
Fig. 5 MKDX Lock Out

**OPERATION & SAFETY DECALS**

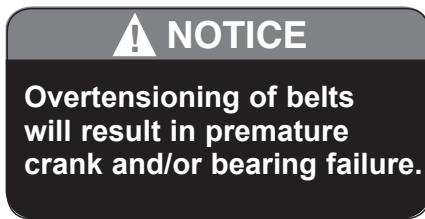
The MKDX is equipped with a number of safety decals provided for operator safety and maintenance information. Should any of these decals become unreadable, replacements can be obtained by calling (800) 262-1575.



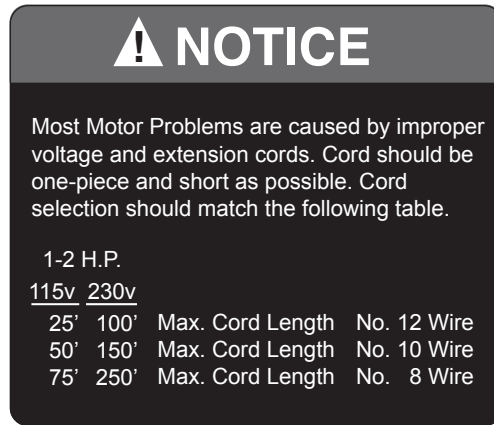
Decal A



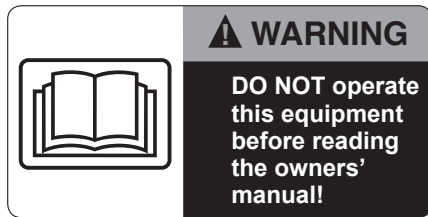
Decal B



Decal C



Decal E



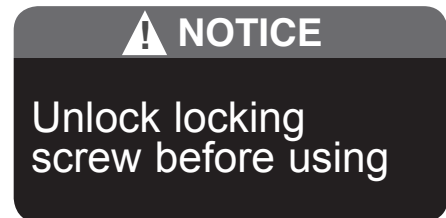
Decal D



Decal F



Decal G



Decal H

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

## SAFETY DECAL LOCATIONS

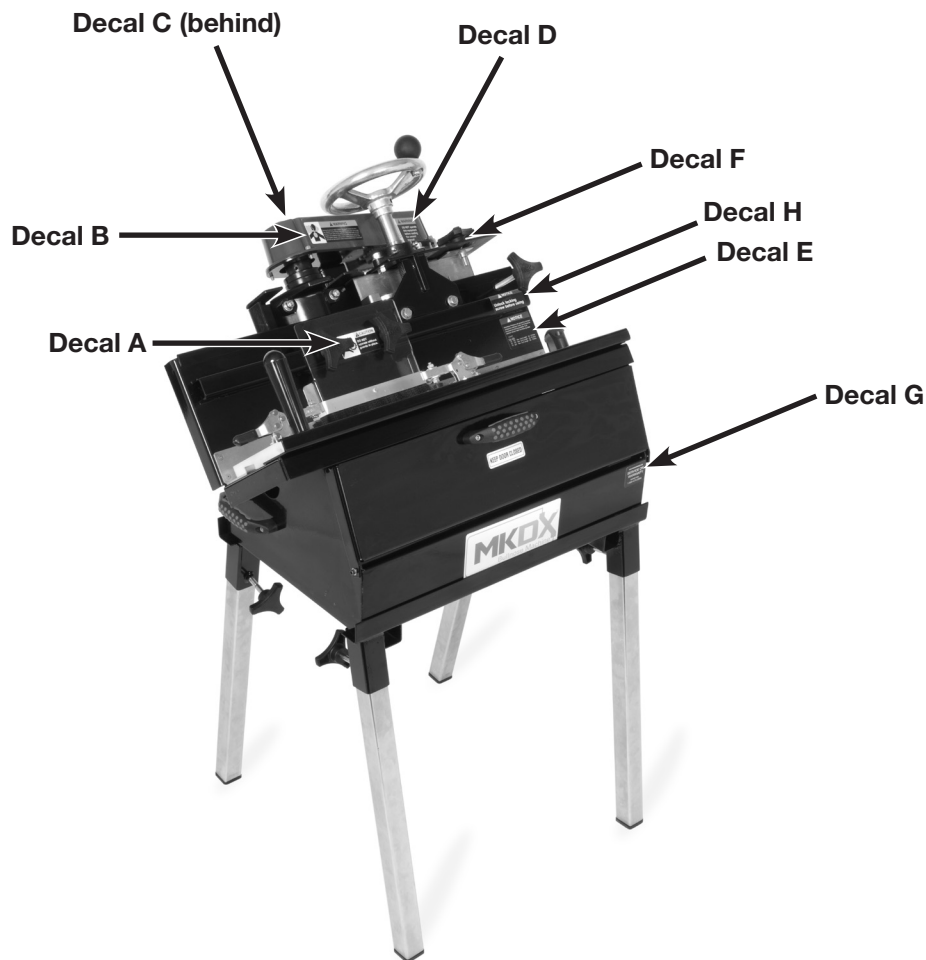







Fig. 7 MKDX Safety Decal Locations

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	Machine Front	Caution Loosen Locking Screw Before Adjusting
G	Machine Front	Service or Warranty Information
H	Machine Front	Notice Unlock Locking Screw

<b>MKDX Specifications</b>	
<b>Model</b>	MKDX
<b>Weight</b>	79 kg (146 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

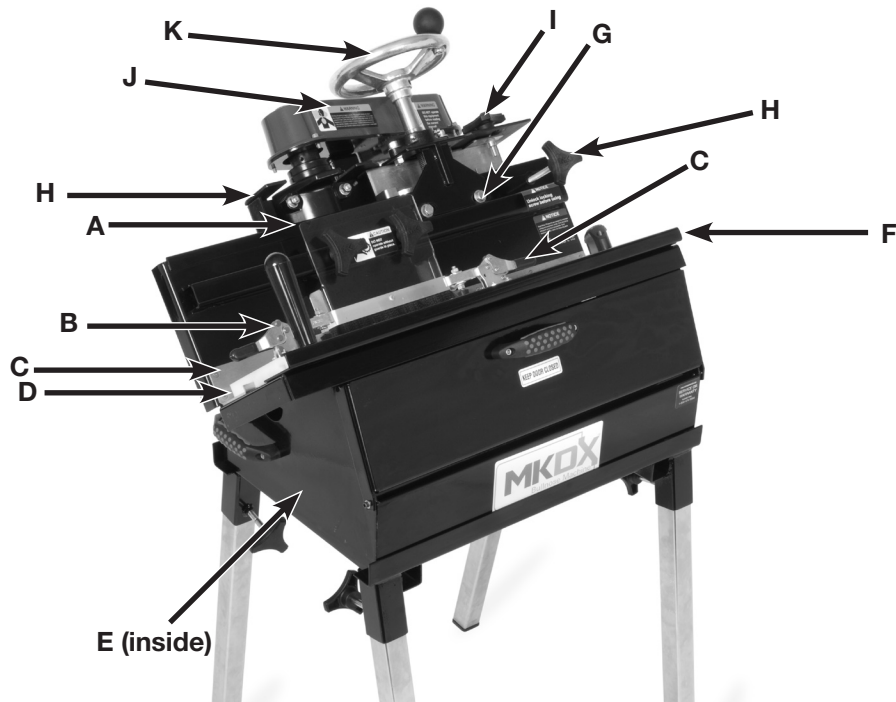
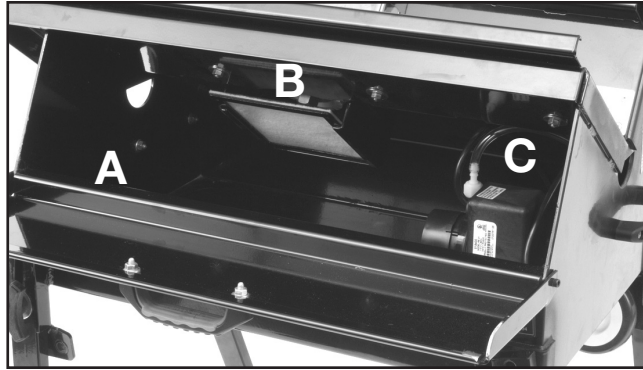


Fig. 8 Basic Machine Components

- A. **Spray Guard** – Adjusts to protect user from flying debris and spray
- B. **Material Clamp** – Configures to material size for lockdown
- C. **Wear Bars** – Material slides along bar during shaping
- D. **Material Slide** – Secures material and moves along shaping wheel
- E. **Water Tank** – Filled for water system
- F. **Material Slide Guide** – Adjust to keep material slide in place
- G. **Material Course Adjustment Bolt** – Use for major adjustment of vertical position to material. These have been preset at the factory for normal operations.
- H. **Material Height Adjustment Bolts** – Use for horizontal adjustment position to material
- I. **Material Height Lock** – Unlocks/locks Material Height Adjustment in place. See Page 25 Figure 36 inset photo for an idea.
- J. **Belt Guard** – Protects user from moving parts
- K. **Material Fine Adjustment** – Use for adjustment of vertical position to material

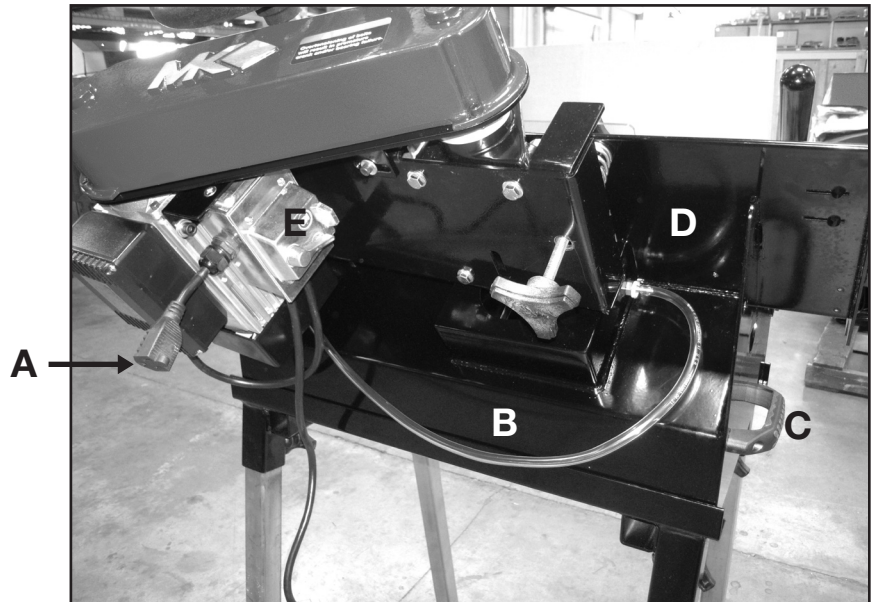


**BASIC COMPONENTS**

- 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

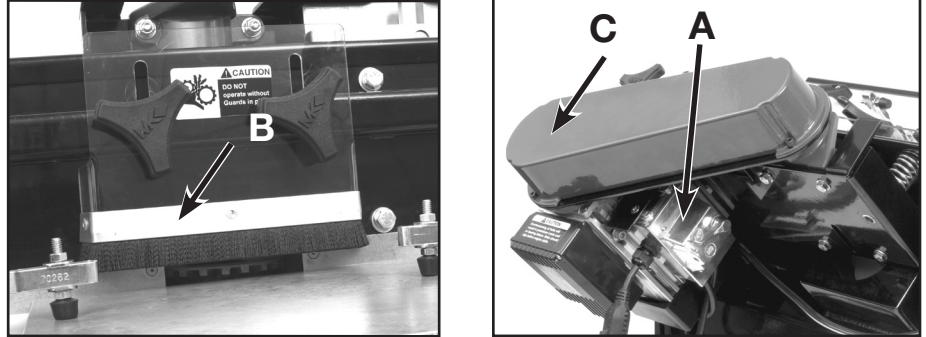


Fig. 11 Safety Devices

## 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

## UNPACKING & MACHINE SET-UP

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1. Remove carton top and shipping strap.
2. Remove machine from pallet and place onto flat surface. Check for broken or damaged parts.
3. Remove material slide.
4. Take the stand out of box. Remove the legs and insert into stand.
5. Place knobs in threaded portion and tighten against leg. Legs can be slid up and down and locked in place for a level profile machine.
6. Two people can now lift the MKDX machine onto the set up stand.



### WARNING

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



### NOTICE

- 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 14).



Fig. 14 Safety in the Workstation

## INSTALLING/CHANGING SHAPING WHEELS

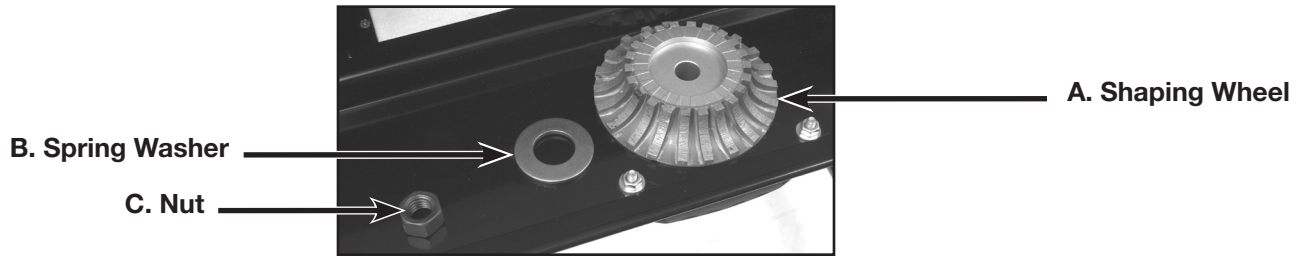


Fig. 15 Shaping Wheel Components

1. Remove water filter to access shaft (Figure 16).
2. Place Shaping Wheel (A) on shaft, followed by Spring Washer (B) and Nut (C) (Figure 17).
3. Center Spring Washer (B) on shaping wheel while tightening Nut (C) (Figure 18).
4. Push Arbor Shaft Lock Button (D) to keep shaft from rotating (Figure 19).  
Use wrench to tighten Nut (C)(Fig. 15).
5. Ensure shaping wheel is installed tightly.
6. Replace filter.



Fig. 16 Remove filter



Fig. 17 Place Shaping Wheel



Fig. 18 Tighten Nut

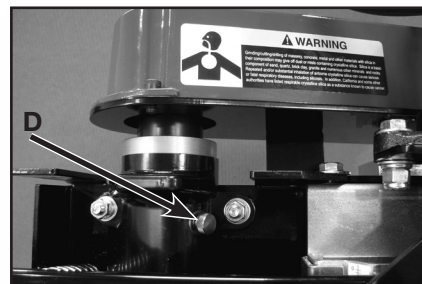
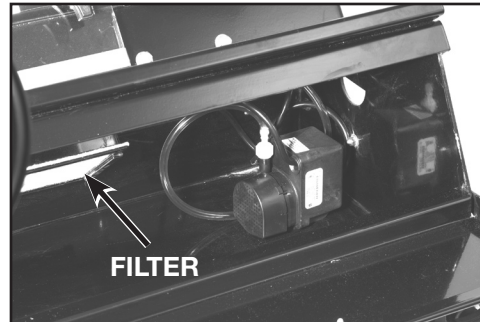


Fig. 19 Arbor Shaft Lock

**WATER TANK FILLING**

1. Open water tank by pulling down handle (Figure 20).
2. Ensure drain plug is tightly in place (Figure 21).
3. Pour clean water into the machine's tank until water line reaches the water hose fitting (Figure 22).
4. Do not let water fill past filter (Figure 23).
5. After filling tank, plug in water pump (Figure 24).

**Fig. 20 Open Water Tank****Fig. 21 Inspect Drain Plug****Fig. 22 Do not fill past here****Fig. 23 Add clean water****Fig. 24 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 wear bars 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 25).
2. Determine correct hole locations for clamps based on the size of the material (Figure 26).
3. Clamps may be rotated 90° for smaller strips. Move clamps to proper locations in order to secure material (Figure 27).
4. Clamps may be moved further apart for larger materials (Figure 28).
5. Use wrenches to remove bolts and nuts to move clamps to desired positions. (View) Bottom of the material slide (Figure 29).
6. Vertical handle may be moved for different sized pieces.



Fig. 25 Material Slide

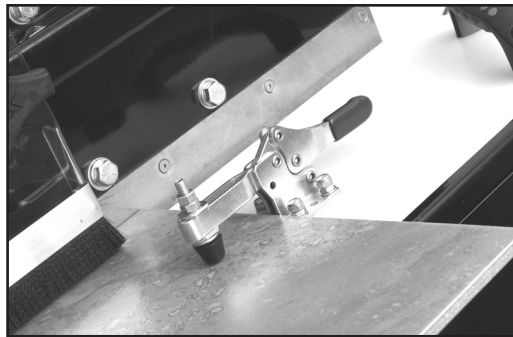


Fig. 26 Determine hole locations



Fig. 27 Determine clamp position

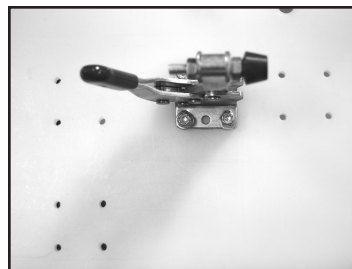


Fig. 28 Top view



Fig. 29 Bottom view

## CLAMPING THE MATERIAL

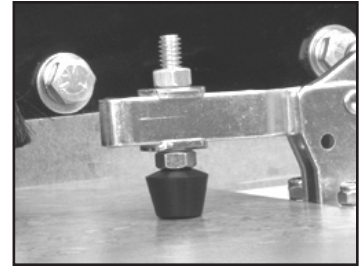
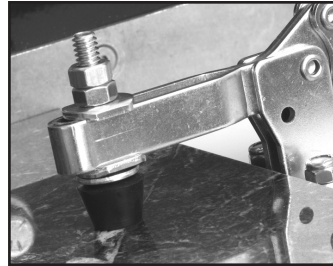
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### ADJUSTING FOR THICKNESS

1. Lower the clamps. The material must be firmly secured in place by a minimum of two clamps (Figure 30).
2. Adjust height of clamp by loosening the nuts. You may remove or add washers to ensure a tight fit (Figure 31).



**Fig. 30 Lower the clamps**



**Fig. 31 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 32).
2. For major vertical adjustments, loosen/tighten course vertical adjustment bolts (Figure 33). These have been preset at the factory for normal operation.
3. Sight down the material slide to gauge the wheel location to material (Figure 34).

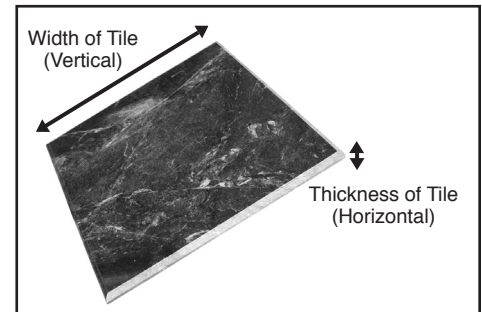


Fig. 32 Unlock lock bolt



Fig. 33 Major vertical  
(Pre-set for normal operation adjustments)



Fig. 34 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 35).
5. Adjust horizontal bolts to material thickness (Figure 36). Be sure to tighten horizontal lock bolt when done. Second horizontal bolt is located on opposite end of motor frame.
6. Turn material fine adjustment wheel for vertical adjustment to material width (Figure 37).
7. Replace spray guard.

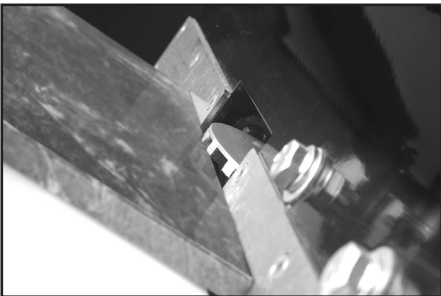


Fig. 35 Wheel touching material



Fig. 36 Adjust both horizontal bolts

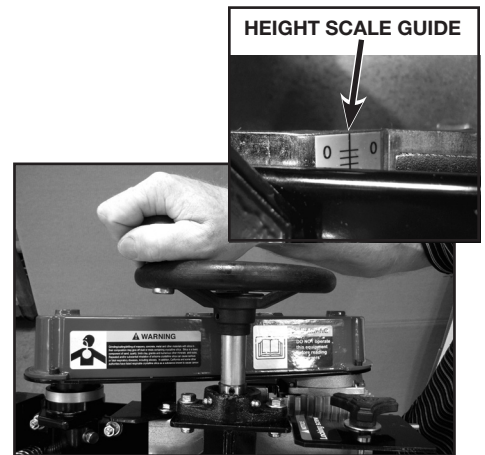


Fig. 37 Turn adjustment wheel using  
the height scale guide

## 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 38).
2. Move spray guard down so brush is touching material slide. Tighten down by turning knobs (Figure 39).
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 40).

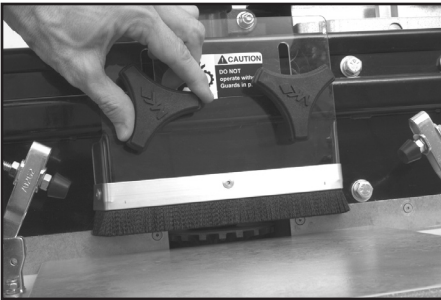


Fig. 38 Loosen spray guard knobs



Fig. 39 Move spray guard down



Fig. 40 Place hands as shown

**SHAPING**

4. Proceed by pushing material slide toward shaping wheel and move material completely through and pause (Figure 41).
5. Push material slide back in opposite direction completely through shaping wheel (Figure 42).  
**DO NOT** force through!
6. For finishing of material, change shaping wheel to finer grit and repeat material shaping process.



Fig. 41 Move material through



Fig. 42 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 43).
2. Remove filter and clean off tile chip debris. (Figure 44). Check tank for other chips and debris, remove all.
3. Replace filter and plug.

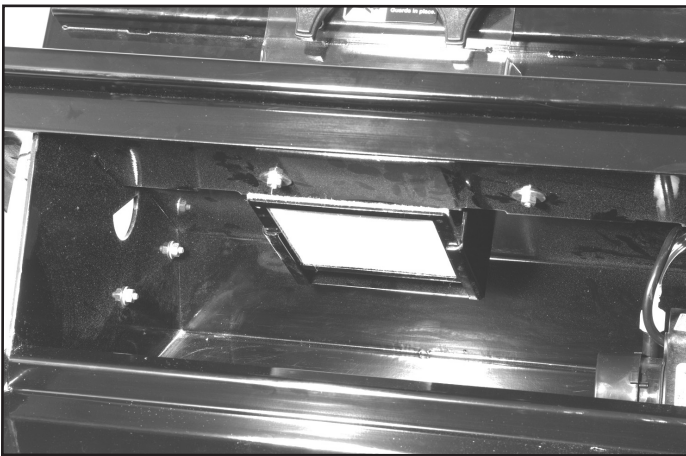


Fig. 43 Open water tank door and remove plug

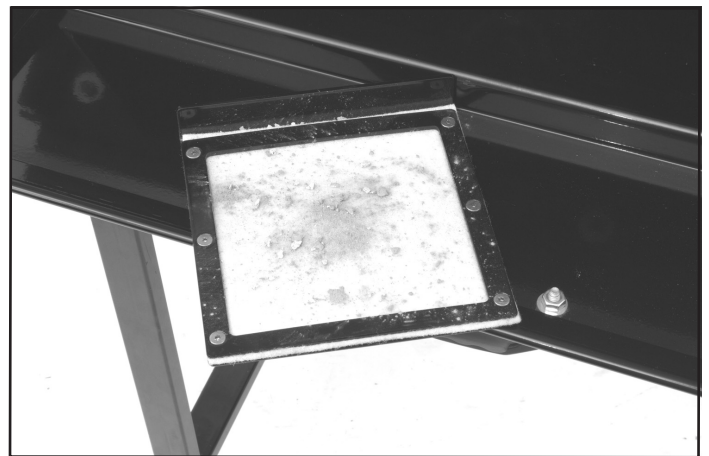


Fig. 44 Remove filter and clean off tile chip debris

## 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 45).
2. Loosen the screws. Move the guides closer to the wear bar to take up the clearance. Tighten the screws after adjustment (Figure 46).

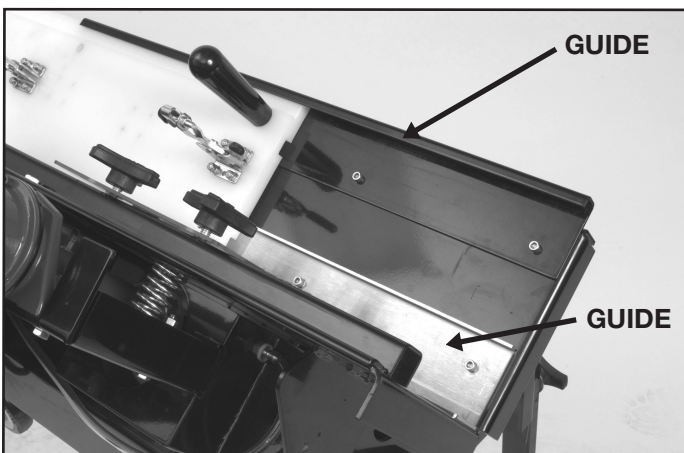


Fig. 45 Adjust material slide screws

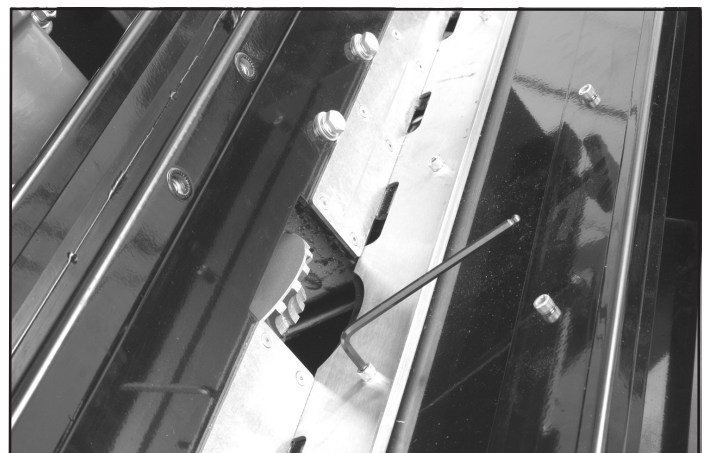
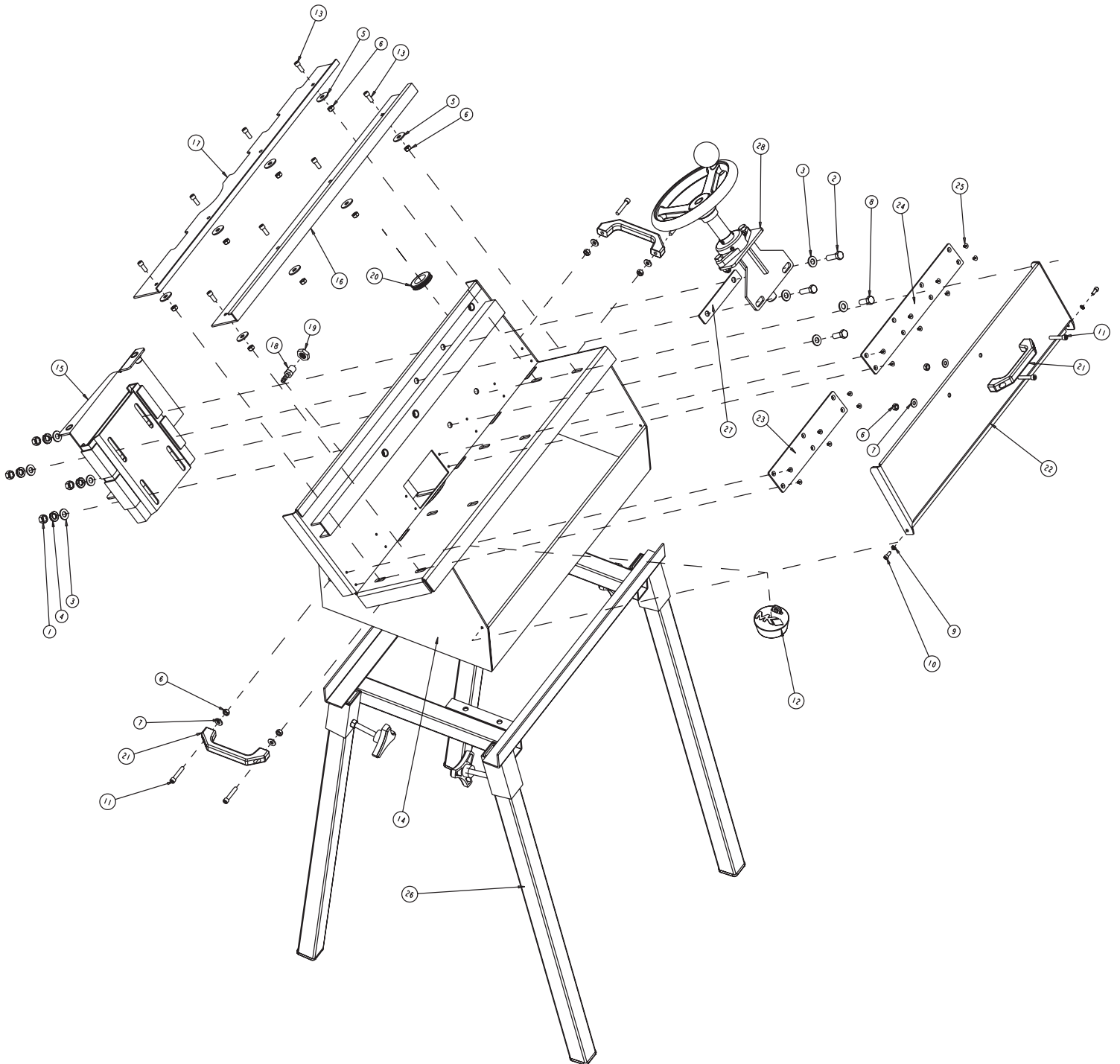


Fig. 46 Move guides closer to wear bar

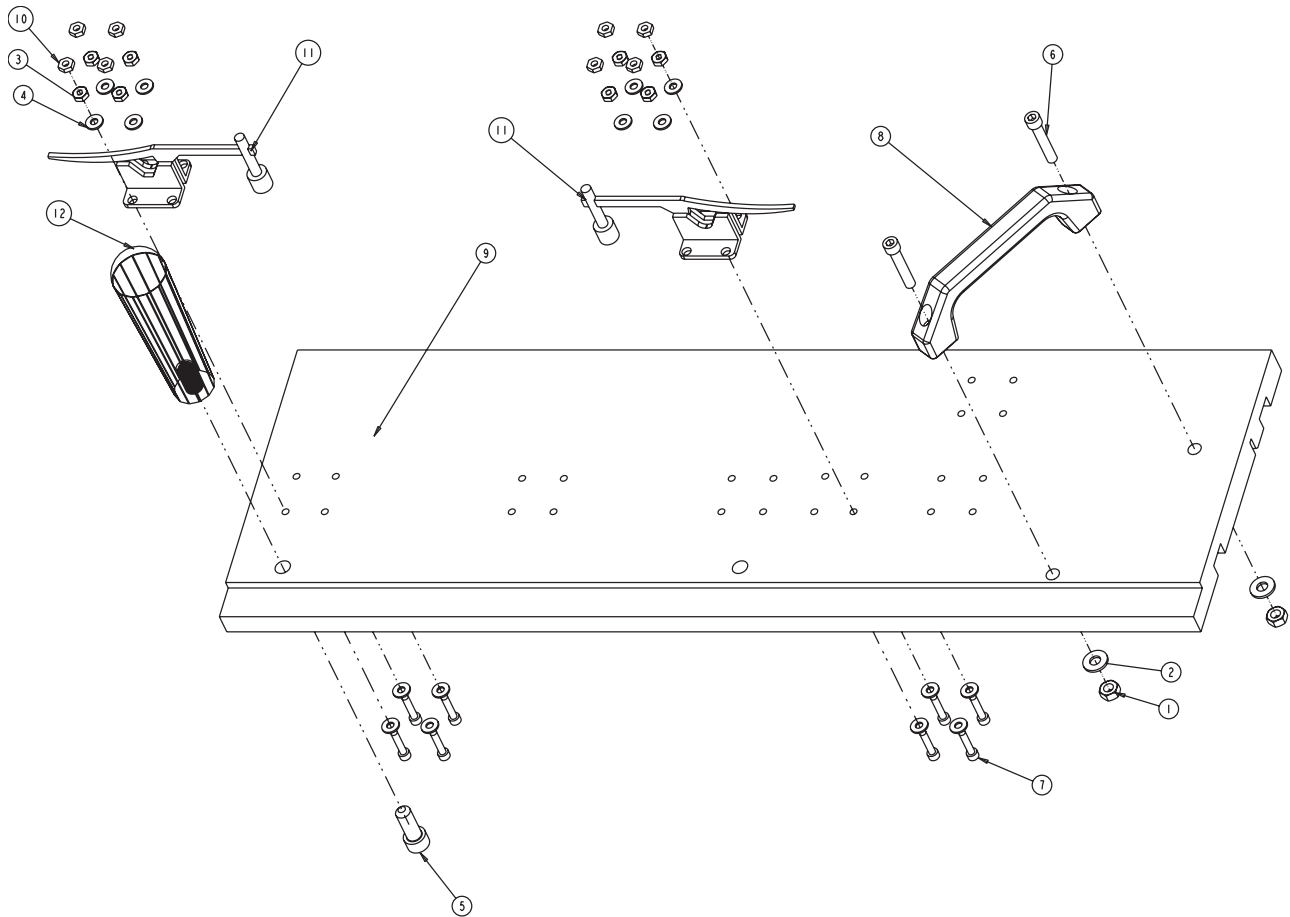


MKDX TOP ASSEMBLY - P/N 165175



ITEM	DESCRIPTION	PART#	QTY.
1	NUT, 3/8-16 HEX	101188	4
2	SCREW, 3/8 - 16 X 1-1/4 HEX HEAD CAP	150774	2
3	WASHER, 3/8 SAE FLAT	150923	8
4	WASHER, 3/8 SPLIT LOCK	150925	4
5	5/16 FENDER WASHER	151053	8
6	NUT, 1/4-20 HEX	151893	14
7	WASHER, 1/4 SAE FLAT	151915	6
8	SCREW, HEX HD CAP, 3/8-16 X 1	152507	4
9	WASHER, #10 SPLIT LOCK	153684	2
10	SCREW, 10-32 X 1/2 SOCKET HEAD SET	157525	2
11	SCREW, SOC HD CAP, 1/4 - 20 X 1-1/4	159336	6
12	PLUG, 2-1/2 DIA RUBBER	159858	1
13	SCREW, 1/4 - 20 X 5/8 SOCKET HEAD CAP	161269	8
14	TRAY WELDMENT	165169	1
15	MOTOR GUIDE ASSEMBLY	165171	1
16	GUIDE "C2"	165179	1
17	GUIDE "L"	165180	1
18	FITTING, PUSH ON HOSE 1/4 X 1/4 MALE	165183	1
19	NUT, BRASS 1/4 NPTF	165184	1
20	GROMMET	165185	1
21	HANDLE, PULL	165187	3
22	DOOR	165212	1
23	PROTECTIVE STRIP	165213	1
24	PROTECTIVE STRIP	165214	1
25	FHCS #8-32 X 5/16"	165481	14
26	STAND ASSEMBLY	166304	1
27	SPACER	166565	1
28	HAND WHEEL ASSEMBLY	166635	1

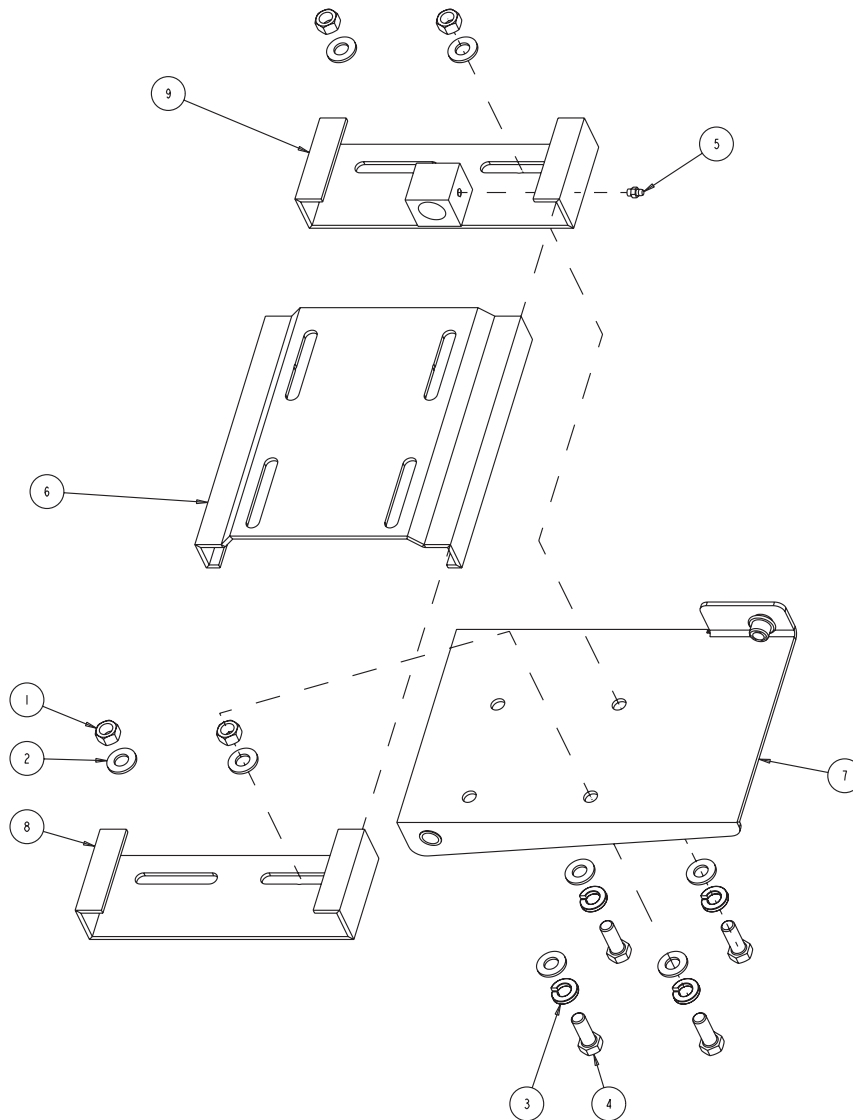
**MKDX MATERIAL SLIDE ASSEMBLY - P/N 165170**



ITEM	DESCRIPTION	PART#	QTY.
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

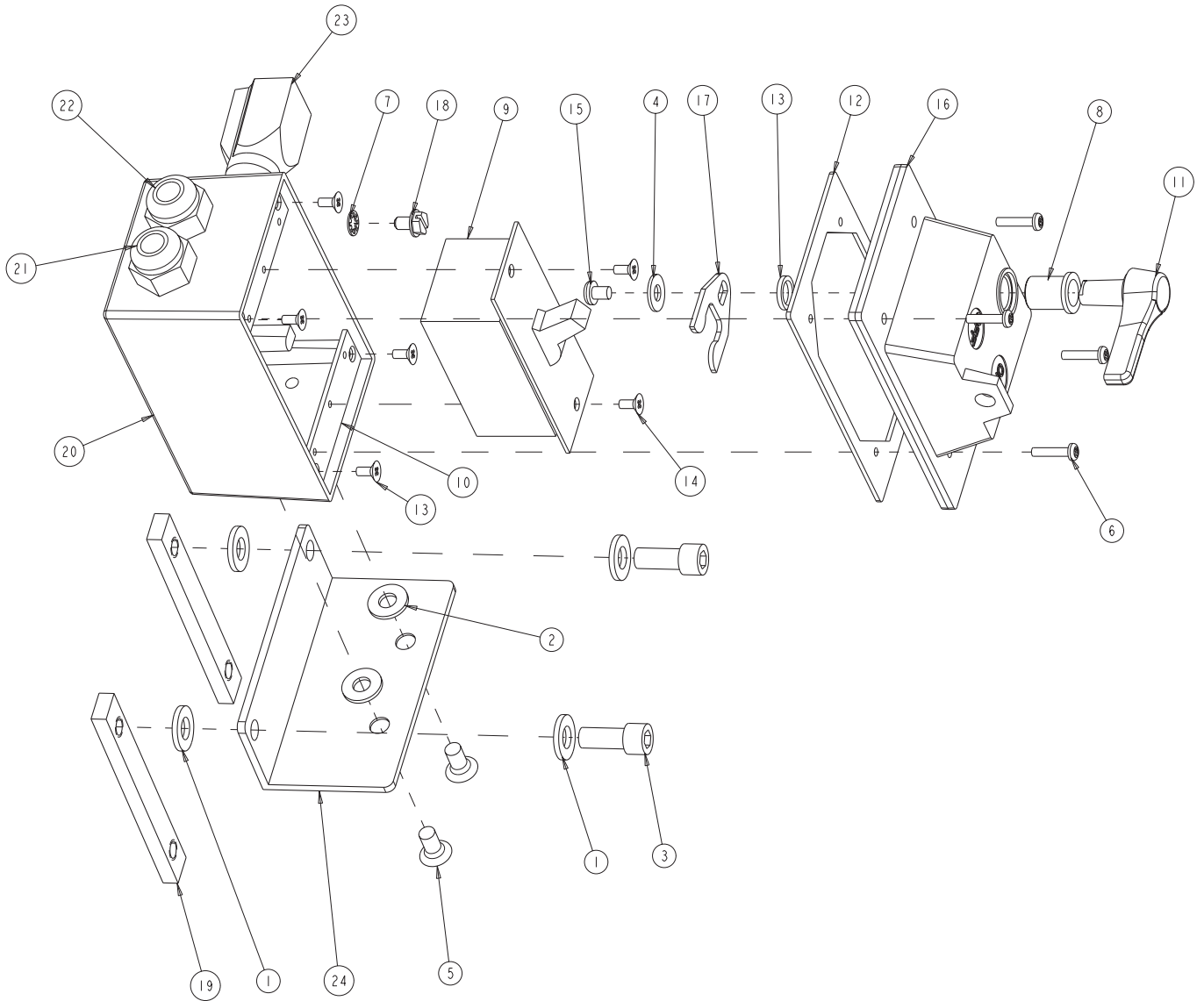


## MKDX MOTOR GUIDE ASSEMBLY - P/N 165171



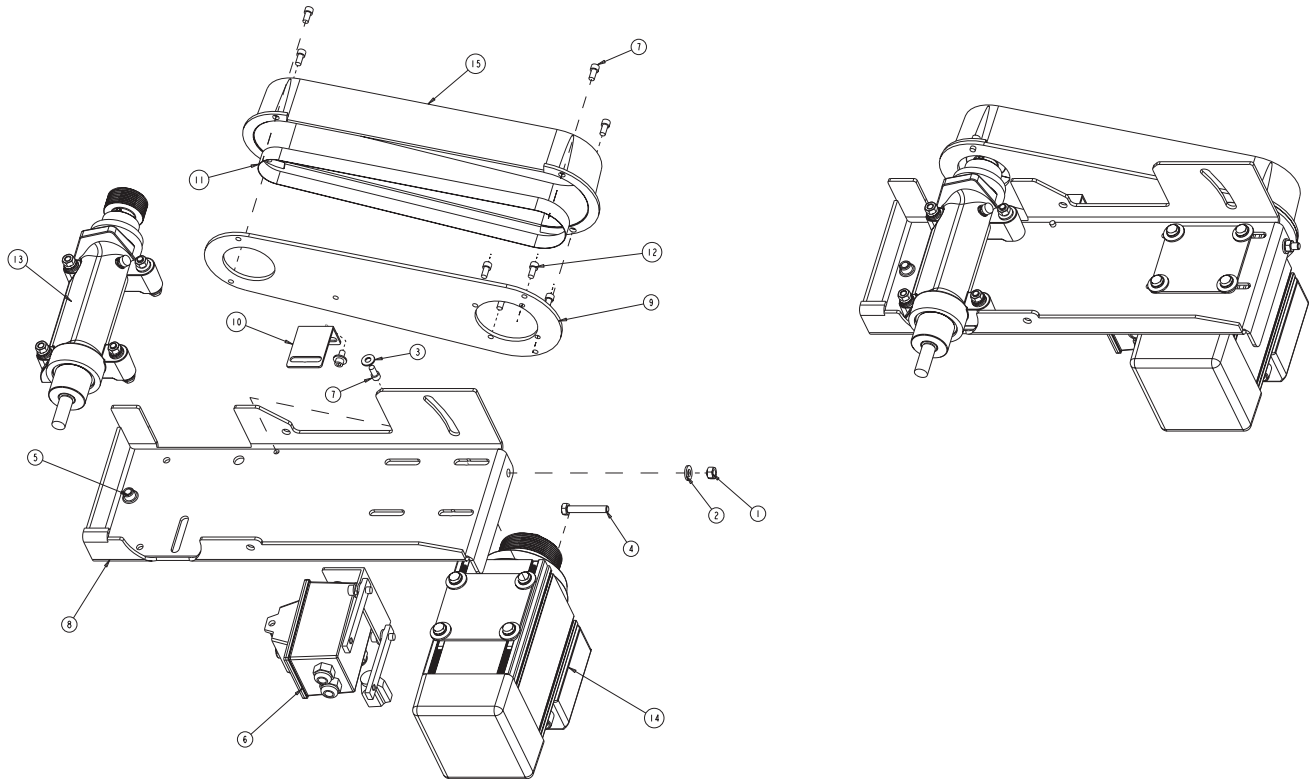
ITEM	DESCRIPTION	PART#	QTY.
1	NUT, 3/8 - 16 HEX	101188	4
2	WASHER, 3/8 SAE FLAT	150923	8
3	WASHER, 3/8 SPLIT LOCK	150925	4
4	SCREW, HEX HD CAP, 3/8 - 16 X 1	152507	4
5	FITTING, 1/4 - 28 GREASE	153852	1
6	MOUNTING PLATE	165190	1
7	SWIVEL MOUNT	165191	1
8	SLIDE	165193	1
9	PULL SLIDE ASS'Y	165580	1

MKDX SWITCH ASSEMBLY - P/N 165176



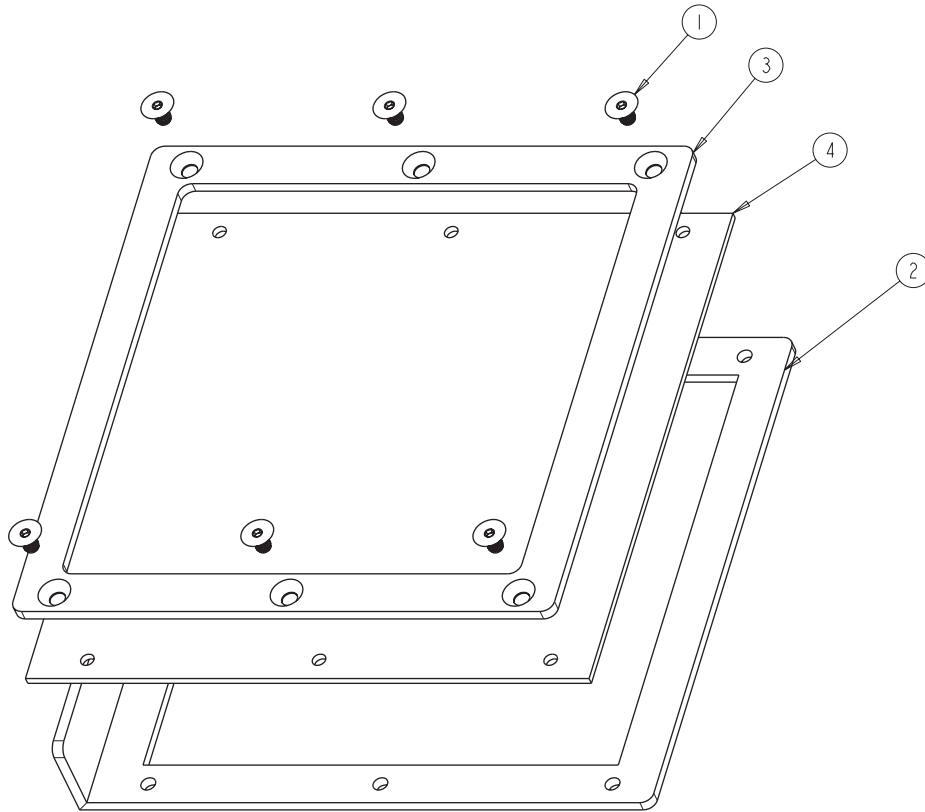
ITEM	DESCRIPTION	PART#	QTY.
1	WASHER, 5/16 SAE FLAT	151754	4
2	WASHER, 1/4 SAE FLAT	151915	2
3	SHCS 5/16-18 X 3/4"	152444	2
4	WASHER, #10 SAE FLAT	154369	1
5	SCREW, FLAT HEAD 1/4-20 X 1/2	155812	2
6	SCREW, PAN HD PHIL 6-32 X 5/8	157393	4
7	WASHER, #10, INTERNAL TEETH	158336	1
8	BUSHING, SWITCH, 30 AMP	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

## MKDX DRIVE TRAIN ASSEMBLY - P/N 165172



ITEM	DESCRIPTION	PART#	QTY.
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

**MKDX FILTER ASSEMBLY - P/N 165438**



ITEM	DESCRIPTION	PART#	QTY.
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 ordered 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 to 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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MK Diamond may have patents, patent applications, trade marks, copyrights of other intellectual property right covering this product in this document.

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.

**MKDX BULLNOSE**  
OWNERS MANUAL, PARTS LIST, EXPLODED VIEW  
& OPERATION MANUAL



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