Caution: Read all safety and operating instructions before using this equipment. This parts list MUST accompany the equipment at all times.
INTRODUCTION

Congratulations on your purchase of a MK-100 Tile Saw. 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 MK-100 Tile Saw 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 MK-100 Tile Saw safely and correctly. Please take the time to familiarize yourself with the MK-100 Tile Saw by reading and reviewing this manual.

Read and follow all safety, operating and maintenance instructions.

If you should have questions concerning your MK-100 Tile Saw, please feel free to call our friendly customer service department at: 800 421-5830

Regards,

MK Diamond

NOTE THIS INFORMATION FOR FUTURE USE:

| MODEL NUMBER: |   |
| SERIAL NUMBER: |   |
| PURCHASE PLACE: |   |
| PURCHASE DATE: |   |

WARRANTY: For your (1) one year warranty to be effective, complete the online Product Registration as soon as possible. Visit www.mkdiamond.com/registration/
# TABLE OF CONTENTS

## SAFETY
- Safety Messages ........................................ 4
- General Safety Precautions ............................ 4-7
- California Proposition 65 Message .................. 8
- Electrical Requirements ................................. 9-12
- Safety Label Locations ................................... 13
- Product Specifications .................................... 14

## UNPACKING, TRANSPORT and ASSEMBLY
- Unpacking .................................................... 15
- Contents ..................................................... 15
- Transport .................................................... 16
- Stand .......................................................... 17
- Assembly ..................................................... 18-19

## SETUP, STARTUP, ADJUSTMENT, OPERATION and SHUTDOWN
- Setup ........................................................ 20-22
- Operation .................................................... 23-26
- Cutting Head Adjustment ............................... 27-28
- Cleanup ...................................................... 29

## MAINTENANCE AND TROUBLESHOOTING
- Maintenance ................................................ 30-35
- Troubleshooting ........................................... 36

## EXPLODED VIEW AND PARTS LIST
- Exploded View & Parts List .............................. 38-45

## ACCESSORIES ORDERING and RETURN INSTRUCTIONS
- Theory of Diamond Blades ............................. 46
- Accessories ................................................ 47
- Ordering Information .................................... 48
- Return Material Policy .................................. 48
- Packaging Instructions ................................. 48
- Authorized Service Centers ............................ 49
Read and follow all safety, operating and maintenance instructions. Failure to read and follow these instructions could result in injury or death to you or others. Failure to read and follow these instructions could also result in damage and/or reduced equipment life. Safety warnings and guidelines do not by themselves eliminate danger. They are not substitutes for proper accident prevention procedures and good judgement.

SAFETY MESSAGES

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.

DAMAGE PREVENTION AND INFORMATION MESSAGES

A Damage Prevention Message is to inform the user of important information and/or instructions that could lead to equipment or other property damage if not followed. Information Messages convey information that pertains to the equipment being used. Each message will be preceded by the word NOTE, as in the example below.

NOTE:  Equipment and/or property damage may result if these instructions are not followed.

GENERAL SAFETY PRECAUTIONS AND HAZARD SYMBOLS

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

**ALWAYS** read this Owner’s Manual before operating the machine. **DO NOT** operate or service this equipment before reading this entire manual. Read and understand all warnings, instructions and controls on the machine. Know how to stop the equipment quickly in case of emergency. It is the operators responsibility to use this machine under safe working conditions and conform with federal, state and local codes or regulations pertaining to safety, air, pollution, noise etc...

**ALWAYS** keep the Blade and Belt Guards in place. **DO NOT** operate this machine with any guard or safety device removed. A Guard, or any damaged part should be repaired or replaced immediately.

**NEVER** operate this equipment without proper protective clothing, shatterproof glasses, steel-toed boots and other protective devices required by the job. Non-slip foot wear is recommended.
PERSONAL PROTECTIVE EQUIPMENT

**ALWAYS** wear approved respiratory, head, ear and eye protection when operating this machine.

**ACCIDENTAL STARTS!**
Before starting the engine/motor, be sure the **ON/OFF** switch is in the **OFF** position to prevent accidental starting. Place the **ON/OFF** switch in the **OFF** position before performing any service operation. **ALWAYS** place the power **ON/OFF** switch in the **OFF** position when the machine is not in use.

**ROTATING PARTS**
Keep hands, feet, hair, and clothing away from all moving parts to prevent injury. Never operate the motor with covers, shrouds, or guards, removed.

**HOT PARTS!**
Engine components can become extremely hot from operation. To prevent severe burns, do not touch these areas while the engine is running, or immediately after it is turned off. Never operate the engine with heat shields removed.

**OVER SPEED**
**NEVER** tamper with the governor components or settings to increase the maximum speed. Severe personal injury and damage to the engine or equipment can result if operated at speeds above maximum.

**ELECTRICAL SHOCK**
**NEVER** touch electrical wires or components while the engine is running. Exposed, frayed or worn electrical wiring and plugs can be sources of electrical shock which could cause severe injury or burns. Do not touch the plug with wet hands.

**ALWAYS** avoid inhalation of and skin contact with silica dust and/or mist. Provide proper dust removal. Use dust-collection system when applicable.

**NEVER** operate the machine in an explosive atmosphere or near combustible materials. Sparks from the cutting-action of this machine can ignite flammable materials, liquids, gases or dust.

This equipment should not be operated by persons under 18 years of age.

**KEEP CHILDREN AWAY**
All visitors and children should be kept a safe distance from work area. Maintain a safe operating distance to other personnel.

**MAKE THE WORKSHOP KID PROOF**
Make the workshops kid proof by using padlocks, master switches or by removing starter keys.

**DO NOT FORCE THE TOOL**
A power tool will do a job better and safer operating at the rate for which it was designed. **DO NOT** force a tool or an attachment to do a job that it was not designed to do.
USE PROPER APPAREL

**DO NOT** wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry that may be caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair.

SECURE WORK

Clamps or a vise should be used to hold work whenever practical. Keeping your hands free to operate a power tool is safer.

DO NOT OVERREACH

Keep proper footing and balance at all times by not overreaching.

DISCONNECT TOOLS

Power tools should always be disconnected before servicing, adjusting or when changing accessories, such as blades, bits, cutters, and the like.

MAINTAIN TOOLS WITH CARE

Keep tools clean and maintained for the best and safest performance. Always follow maintenance instructions and examine the machine before use. If any abnormal vibrations or noises occur, turn off machine immediately and have the problem corrected before further use.

REMOVE ADJUSTING KEYS AND WRENCHES

Form a habit of checking to see that keys and adjusting wrenches are removed from the power tool before it is turned on.

KEEP WORK AREA CLEAN

Cluttered work areas and benches invite accidents. Keep area around machine clear of obstructions which could cause persons to fall.

DO NOT USE IN DANGEROUS PLACES

**DO NOT** operate equipment in dangerous or hazardous environments. **DO NOT** use power tools in damp or wet locations nor expose them to rain. Always keep the work area well lighted.

USE RECOMMENDED ACCESSORIES

Consult the owner’s manual for recommended accessories. Using improper accessories may increase the risk of personal or by-stander injury. Unauthorized equipment modifications will void all warranties. Manufacturer does not assume responsibility for any accident due to equipment modifications.

ALWAYS ensure that the machine is on level ground before using.

NEVER STAND ON THE TOOL

Serious injury could occur if a power tool is tipped, or if a cutting tool is unintentionally contacted.

TRANSPORT

When loading or unloading the machine, use caution. Remove the blade prior to hoisting, loading and transporting the machine.
CHECK FOR DAMAGED PARTS
Before using a power tool, check for damaged parts. A guard or any other part that is damaged should be carefully checked to determine if it would operate properly and perform its intended function. Always check moving parts for proper alignment or binding. Check for broken parts and mountings and all other conditions that may affect the operation of the power tool. A guard, or any damaged part, should be properly repaired or replaced. Always check the machine for loose bolts before starting.

DIRECTION OF ROTATION
A blade or cutter should always be installed so that rotation is in the direction of the arrow imprinted on the side of the blade or cutter. It should correspond with the rotational direction of the motor. Always feed work into a blade against the direction of rotation.

NEVER LEAVE A TOOL UNATTENDED
TURN POWER OFF - Do not leave a tool until it comes to a complete stop. ALWAYS turn a power tool OFF when leaving the work area, or, when a cut is finished.

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 this machine with any cutter designed for woodworking.

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.

On belt driven equipment, overtensioning of belts will result in premature crank and/or bearing failure.

Whenever necessary, replace nameplate, operation and safety decals when they become difficult to read.

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

DO NOT lend or rent this equipment without including the Owner's Manual and the Engine/Motor Manufacturer's Manual.

Check the chemical properties of the material to be cut/grinded and follow all EPA/OSHA Regulations. (cut/ground)
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.

Use appropriate NIOSH-approved respiratory protection where dust hazard may occur. Paper masks or surgical masks without a NIOSH approval number are not recommended because they do little to protect the worker. For more information about respirator programs, including what respirators have received NIOSH approval as safe and effective, please visit the NIOSH website at:

http://www.cdc.gov/niosh/topics/respirators


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.gov/dsg/topics/silicacrystalline/index.html
http://www.cdc.gov/niosh/docs/96-112/
http://oehha.ca.gov/prop65/law/P65law72003.html
http://www.dir.ca.gov/Title8/sub4.html
http://www.P65warnings.ca.gov

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 dust masks that are specially designed to filter out microscopic particles. Where use of a dust extraction device is possible, it should be used. To achieve a high level of dust collection, use an industrial HEPA vacuum cleaner. Observe OSHA 29 CFR part 1926.57 and 1926.103.
WARNING

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

In case of a malfunction or breakdown, grounding provides a path of least resistance for electrical current to reduce the risk of electric shock. This tool is equipped with an electric cord which has 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.

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, plug, and the like, extending from the adapter, must be connected to a permanent ground, such as a properly grounded outlet box.

![Circuit and Adapter Information](image)

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

**NOTE:** If permanently connected this tool should be connected to a grounded metal permanent wiring system; or to a system having an equipment - grounding conductor.
**ELECTRIC MOTOR SAFETY**

For maintenance care and operation of the electric motor, refer to your electric motor instruction booklet furnished with the electric motor. Protect the electric motor from dust as much as possible and keep ventilating openings clean. Before plugging in the machine, make sure that the outlet voltage is within the voltage marked on the machine’s data plate.

**CAUTION**

**DO NOT** spray water on the electric motor. **DO NOT** touch the plug with wet hands. To reduce the risk of electrocution, keep all connections dry and off the ground.

**DO NOT** operate electric motor in an explosive environment.

**DO NOT EXPOSE TO RAIN**

**DO NOT** expose to rain or use in damp locations.

**WARNING**

If operating the equipment in damp locations is unavoidable, **ALWAYS** use a Ground Fault Circuit Interrupter, **ALWAYS** wear rubber gloves and footwear in damp conditions.

**DO NOT** abuse the cord. Never use the cord to carry the equipment or to pull the plug from the outlet. Keep the cord away from heat, sharp edges, and moving parts. Replace damaged cords immediately. Damaged cords increase the risk of electric shock.

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

**WARNING**

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

To avoid the possibility of the appliance or plug receptacle getting wet, position the machine to one side of a wall mounted receptacle. This will prevent water from dripping into the receptacle or plug. A "drip loop," shown in the picture below, should be arranged by the user to properly position the power cord relative to the power source. Use the drip loop as a way to prevent GFCI and plug from getting wet.

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.

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 disconnecting the product from the extension cord.

**ALWAYS** make certain that the power source required for the electric motor is correct and always use the correct NEMA configuration plug. Motors can burn out when the line voltage falls 10% below the voltage rating of the motor. Failure to use proper voltage will cause the motor to overheat. Make certain that the correct size grounded (3-wires) extension cord is used.
WARNING

Use of undersized 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 customer’s expense. There will be no warranty claim.

To choose the proper extension cord,

- Locate the length of extension cord needed in the 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.

<table>
<thead>
<tr>
<th>MOTOR SPECS</th>
<th>EXTENSION CORD LENGTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor</td>
<td>Voltage</td>
</tr>
<tr>
<td>168022G</td>
<td>120V</td>
</tr>
</tbody>
</table>

TILE SAW SPECIFIC WARNINGS

WARNING

Wear eye protection.
Use splash guard for every operation for which it can be used.
Disconnect saw before servicing, when changing cutting blades, and cleaning.
Replace damaged cutting blade before operating.
SAFETY LABEL LOCATIONS

Safety labels contain important safety information. Please read the information contained on each safety label. These labels are considered a permanent part of your saw. If a label comes off or becomes hard to read, contact MK Diamond or your dealer for a replacement.

### Decal/Label Location Description

- **A** Motor - Front  
  Warning - Silica Warning
- **B** Motor - Front  
  Warning - Read and Follow Operating Instructions
- **C** Motor - Back  
  Caution - Receptacle for water pump
- **D** Motor - Back  
  Caution - Use with GFCI only
- **E** Motor - Side  
  Service/ Warranty
- **F** Motor - Side  
  Notice - Voltage/Extension Cords
- **G** Motor - Front  
  QR Code for Manuals

**WARNING**

- Use of this equipment can expose you to chemicals including nickel and crystalline silica which are known to the State of California to cause cancer.
- For more information go to www.P65Warnings.ca.gov.
- Repeated and/or substantial inhalation can cause serious or fatal respiratory diseases including silicosis.
- Employ dust controls and protection per OSHA/NIOSH/NIOSH.

**A WARNING**

- For Your Own Safety Read Instruction Manual Before Operating Saw.
- Wear Eye Protection.
- Disconnect Saw Before Servicing, when Changing Cutting Wheels and Cleaning.
- Use Tool Only with Smooth Edge Cutting Wheels Free of Openings and Grooves.
- Replace Damaged Cutting Wheel Before Operating.
- Do Not Fill Water Bath Above Water Fill Line.
- See Manual for Pump Replacement.

**CAUTION**

- Receptacle is for water pump only. 125V .6 amps max.
- This saw is to be used with a Ground Fault Circuit Interrupter.

**NOTICE**

- Most motor problems are caused by low voltage from improper extension cords. See owner’s manual for extension cord selection.

**Part # 164202**

**Part # 155806**

**Part # 154822**

**Part # 155678**

**Part # 155038**

**Part # 155672**

**Part # 170480**
MK-100 TILE SAW

PRODUCT SPECIFICATIONS

The MK-100 is a versatile Tile Saw. Operated and used according to this manual, the MK-100 will provide years of dependable service.

GENERAL DESCRIPTION

The MK-100 Tile Saw is engineered as a tabletop or stand mounted wet tile saw. The saw includes a powerful 120V electric motor. The saw is capable of cutting tile up to twenty (20) inches in length, depth of cut 3".

MOTOR SPECIFICATIONS

Motor specifications for the MK-100 are listed in below.

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
<td>120V</td>
</tr>
<tr>
<td>Motor Only Amperage</td>
<td>14.5</td>
</tr>
<tr>
<td>Frequency</td>
<td>60Hz</td>
</tr>
<tr>
<td>RPM</td>
<td>3400 rpm</td>
</tr>
<tr>
<td>Horse Power</td>
<td>1.5 hp</td>
</tr>
<tr>
<td>Weight</td>
<td>96 lbs.</td>
</tr>
</tbody>
</table>

BLADE CAPACITY

The MK-100 uses a ten (10) inch (254 mm) diameter, wet cutting continuous rim, MK Diamond blade with a five-eighths (5/8) inch (15.875 mm) arbor.

TILE TYPES

The MK-100 can cut a variety of tile types including stone, masonry, and lapidary products.

NOTE: The MK-100 is not designed to cut plastic or metals.

---

A Motor  
B Water Pump Tube  
C Blade Guard  
D Cutting Table  
E Water Basin  
F Frame  
G Guide Bar  
H Post  
I Depth of Cut Adjustment Knob  
J Belt Guard
UNPACKING

Your MK-100 has been shipped from the factory thoroughly inspected. Only minimal assembly is required.

⚠️ CAUTION Use proper lifting techniques when lifting the MK-100.

If not done, remove the MK-100, Cutting Head and accessory box from the carton.

CONTENTS

In your container, you will find one (1) MK-100 frame and water basin, one (1) MK-100 cutting head, one (1) 10-inch wet cutting continuous rim diamond blade, one (1) adjustable cutting guide, one (1) electric water pump, one (1) splash guard, one (1) cooling transfer tube, one (1) flow adjusting clamp, one (1) blade wrench, one (1) drain plug, one (1) owner’s manual, one (1) pump manual and one (1) warranty card.
**TRANSPORT**

**CAUTION**

1. The MK-100 weighs approximately ninety-six (96) pounds; use care when transporting.
2. Never transport the MK-100 with water in the Water Pan.

The MK-100 is designed with a rigid frame and removable Cutting Head. Two people are required to transport the MK-100 with the Cutting Head installed. The Cutting Head must be removed first, if one person is transporting the saw (see Cutting Head Installation and Removal in the following section).

To lift the saw using two people, each person will grasp the front and back of the frame. To lift the saw using one person, remove the Cutting Head first, and then grasp the front and back of the frame. Transport the Cutting Head and the Frame separately.
CAUTION

The MK-100 weighs ninety-six (96) pounds; follow the guidelines in the TRANSPORT section when placing it on the stand (MK Diamond P/N 168244).

NOTE: If using the Optional MK Diamond Stand, follow these steps.

(A) Open the stand and place on flat surface. Remove Water Basin from saw.

(B) Place saw on stand.

(C) Ensure saw frame is positioned properly.

(D) Reinstall the Water Basin.
ASSEMBLY
Follow the assembly instructions to prepare your MK-100 for operation.

CUTTING HEAD INSTALLATION

NOTE: If the Cutting Head is installed, go to the next step.

(A) Align Cutting Head Rear Pivot Hole to the Post Pivot Shaft and slide onto shaft.

(B) Secure the Cutting Head by installing the Adjusting Knob.

DIAMOND BLADE INSTALLATION

NOTE: When installing the Retaining Nut, do not "cross-thread" and DO NOT over tighten the nut.

(A) Position Movable Cutting Table to the front of the saw and raise the Blade Guard.

(B) Locate the Shaft Lock button on the underside of the Cutting Head.

(C) Depress and hold the Shaft Lock button and remove Retaining Nut and Outer Flange using the Blade Wrench.

⚠️ CAUTION
(D) Install Diamond Blade onto Blade Shaft. Verify the Blade is seated on the Blade Shaft.

(E) Check the directional arrow on the blade and direction of rotation is correct.

(F) Install Outer Flange and Retaining Nut, depress and hold the Shaft Lock button and tighten nut.

ADJUSTABLE CUTTING GUIDE INSTALLATION

**NOTE:** The Adjustable Cutting Guide can be used on either side of the Diamond Blade.

(A) Loosen Adjustable Cutting Guide retaining thumbscrew and place it over the Movable Cutting Table Ruler/Stop.

(B) Place the Adjustable Cutting Guide onto the Movable Cutting Table Ruler/Stop and tighten the retaining thumbscrew.

SPLASH GUARD INSTALLATION

(A) Install the retaining thumbscrew through the washer and Splash Guard then align to the hole found on back of the Blade Guard and tighten.
Prior to beginning work, a pre-start inspection of the saw should be performed.

(A) Ensure the ON/OFF Switch is in the OFF position.

(B) Verify the Movable Cutting Table moves freely.

(C) Inspect the Diamond Blade for damage. Verify the blade is correct for the material being cut.

(D) Inspect the Pump Assembly for damage. Ensure the cord is free of cracks or cuts.

(E) Inspect the MK-100 for damage. Ensure the cord is free of cracks or cuts.
CONNECTING WATER PUMP

⚠️ WARNING  To prevent the possibility of electrical shock, the MK-100 MUST be de-energized when connecting the Water Pump.
To prevent the possibility of electrical shock, use only MK Diamond qualified replacement parts.

NOTE:  To prevent pump damage, the Water Pump must be disconnected from its power supply if cutting with a Dry Blade.

(A) Connect the Cooling Transfer Tube to the inlet connection of the Blade Guard.
(B) Connect the Water Pump power cord to the connection found on the back of the motor.

WATER PUMP SETUP FOR OPERATION

The Water Pump can be setup for operation in two ways, external water source or Re-circulation.

EXTERNAL WATER SOURCE

This is the preferred method of cooling.

(A) Remove the Drain Plug. Place empty container under hole for water drainage.
(B) Place the Water Pump in an external container and fill until water completely covers the Water Pump suction.
RE-CIRCULATION

NOTE: When using the re-circulation method, the water should be changed often for longer pump life.

(A) Ensure the Drain Plug is installed in the Water Basin.

(B) Place the Water Pump in the back of the Water Basin.

NOTE: Ensure the power cord and cooling tube exit the water basin under the top rail of the frame.

MK-100 SETUP FOR OPERATION

⚠️ CAUTION ⚠️ Before powering or starting, check for damage that could prevent this equipment from proper operation or performing its intended function. Check for binding and alignment of moving parts. Check for damaged, broken, or missing parts.

Verify the ON/OFF switch is in the OFF position.

Before connecting the MK-100 to a power supply, be sure the voltage, cycle and phase of the job site power source meet the requirements in the table below.

<table>
<thead>
<tr>
<th>Voltage</th>
<th>120v</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cycle</td>
<td>60Hz</td>
</tr>
<tr>
<td>Phase</td>
<td>1-phase</td>
</tr>
</tbody>
</table>

If using an extension power cord, make sure the length and wire gauge correspond to the requirements listed in the Table on Page 10. An extension power cord that is too small in wire gauge (diameter), or too long in length, will cause the motor to overheat and could cause premature failure.

Use an approved Ground Fault Circuit Interrupter (GFCI).

Do not cover the motor vents as this could lead to motor overheating.

NOTE: In order to avoid breaker tripping, a 20 amp circuit breaker should be used.
PORTABLE GENERATOR

If using a portable generator to provide power, ensure the generator meets the following minimum requirements: 8Kw 120 Volts 20 Amps Single Phase

GROUND FAULT INTERRUPTER

Ground Fault Interrupters (GFCI) provide protection from the dangers of electrical hazards. Receptacles are available having built-in GFCI protection and may be used for this measure of safety. Otherwise a GFCI should be used.

(A) Ensure the ON/OFF Switch is in the OFF position.
(B) Plug MK-100 into GFCI.
(C) Plug the GFCI into the power source.

**WARNING** If the plug or receptacle does get wet **DO NOT** plug/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.

SET CUTTING DEPTH

**CAUTION** When loosening the Cutting Head Adjusting Knob, the Cutting Head will pivot down unless held.

(A) Loosen Cutting Head Knob and move Cutting Head down.
(B) Set cutting depth approximately 1/4 to 1/2 inch below the surface of the Movable Cutting Table.
(C) Ensure the Adjusting Knob is tight.
Cutting Straight Edges

**CAUTION** DO NOT FORCE THE TOOL. It will do the job better and safer at the rate for which it was designed.

(A) Loosen the Adjustable Cutting Guide retaining thumbscrew.

(B) Position the Adjustable Cutting Guide to desired cut length indicated inside the diamond and tighten.

(C) Place the tile against the Ruler/Stop and Cutting Guide. Turn the motor ON.

(D) Verify proper cooling flow on both sides of the blade (See Maintenance Section to increase/decrease flow).

(E) Perform the cut. Turn the motor OFF when work is complete.

Diagonal Cut

**NOTE:** To cut diagonals, the Dual 45° Flat Angle Guide (MK Diamond Part No. 134557-MK) should be used.

**CAUTION** DO NOT FORCE THE TOOL. It will do the job better and safer at the rate for which it was designed.

(A) Position the Dual 45° Flat Angle Guide and tighten the retaining thumbscrew.

(B) Position the tile against the Dual 45° Flat Angle Guide and the Ruler/Stop. Turn ON the motor.

(C) Verify proper cooling flow on both sides of the blade (See Maintenance Section to increase/decrease flow).
Perform the cut. Turn the motor OFF when work is complete.

45° Miter Cutting

**CAUTION**

**DO NOT FORCE THE TOOL.** It will do the job better and safer at the rate for which it was designed.

**NOTE:**

To cut 45° Miters, the 45° Bullnose Miter Guide should be used (MK Diamond Part # 134585-MK).

**(A)** Position the 45° Bullnose Miter Guide and tighten the retaining thumbscrews.

**(B)** Position the tile on the 45° Bullnose Miter Guide and the Ruler/Stop. Turn ON the motor.

**(C)** Verify proper cooling flow on both sides of the blade (See Maintenance Section to increase/decrease flow).

**(D)** Perform the cut. Turn the motor OFF when work is complete.
Off-angle Cutting

NOTE: To cut angles other than 45° angles or Miter, a 90° Protractor (MK Diamond Part No. 134569-MK) should be used.

⚠️ CAUTION ⚠️ DO NOT FORCE THE TOOL. It will do the job better and safer at the rate for which it was designed.

(A) Place the 90° Protractor on the Ruler/Stop and tighten the retaining thumbscrew.

(B) Set the desired angle and tighten the thumbscrew.

(C) Position the tile against the 90° Protractor and the Ruler/Stop. Turn the motor ON.

(D) Verify proper cooling flow on both sides of the blade (See Maintenance Section to increase/decrease flow).

(E) Perform the cut. Turn the motor OFF when work is complete.
Adjusting the Cutting Head

**CAUTION**

The Cutting Head is heavy. When loosening the Cutting Head Adjustment Knob, the Cutting Head will pivot down unless held. Care must be used when changing the position of the Cutting Head.

(A) Remove the blade. Support the Cutting Head and then remove Adjusting Knob.

(B) Remove the Cutting Head from the rear pivot hole.

(C) Move Cutting Head Stop to down position.

(D) Install the Cutting Head onto the front pivot hole.

(E) Install the Adjusting Knob.

(F) Install Diamond Blade. Set cutting depth approx. 1/4 to 1/2 inch below the surface of the Movable Cutting Table.

**NOTE:** Move Cutting Head Stop in upward position when using rear pivot hole and in the down position when using front pivot hole.

For small tiles (6" tile or smaller) the Cutting Head should be in the rear pivot hole and the Motor Post should be in the forward post retaining hole.

For maximum cutting length, the Cutting Head should be in the front pivot hole and the Motor Post should be in the rear post retaining hole.
Adjusting the Motor Post for Maximum Cutting Length

**CAUTION** The Cutting Head and Motor Post are heavy. Care must be used when changing the position of the Cutting Head.

**NOTE:** Do not unscrew the Motor Post Retaining Bolts completely. There is a Stand Off that needs to be removed with the Retaining Bolts.

(A) Remove Water Basin and Blade. Secure the Cutting Head and then remove Adjusting Knob.

(B) Remove the Cutting Head (Cutting Head Adjustment pg 25).

(C) Loosen the Retaining Bolts.

(D) Remove both the Standoffs and Retaining Bolts.

(E) Relocate the Post to the rear Post retaining holes.

(F) Install the Post Support and tighten Retaining Bolts.

(G) Install the Cutting Head in rear Pivot Hole (Cutting Head Adjustment pg 25).
NOTE: If an external water source was used, steps A through C may be skipped. Dispose of waste water in accordance with applicable Federal, State and Local laws.

(A) Clean the Water Pump suction of all debris

(B) Place the Water Pump in an external container

(C) Run the MK-100 until clear water is seen at the blade cooling ports (Approx. 1 min.)

(D) Remove the Water Basin and clean.

(E) Clean the Movable Cutting Table Roller Wheel and Frame Support

(F) Clean the remainder of the MK-100
MAINTENANCE

Perform the following after initial purchase and operation of the MK-100.

Maintenance Following Use

To extend the life of the MK-100, the following procedure should be performed after each use. Lubricate all points listed below with light oils such as, MK Linear Guide Bar Lubricant, 3-IN_ONE oil, or other multipurpose spray lubricant.

(A) Lubricate the Guide Bar.

(B) Lubricate the Roller Wheel Assembly.

Monthly Maintenance

The following maintenance should be performed monthly.

(A) Remove the Diamond Blade.

(B) Clean and lubricate the Outer Flange and Retaining-nut.

(C) Lubricate the Arbor Shaft.

(D) Verify the Roller Wheel Assembly is tight and in good condition.

(E) Verify all motor mounting Bolts are tight.

(F) Verify the Motor Adjustment Strap is tight.
Monthly Maintenance Cont.

(G) Remove the Blade Guard. Lubricate the Blade Guard Pivot Shaft.

(H) Remove the Cutting Head (Cutting Head Adjustment pg 25).

(I) Lubricate the threads on the Cutting Head Adjustment Knob.

(J) Lubricate the Cutting Head Adjustment Knob retaining holes.

(K) Lubricate the Cutting Head Pivot Shaft.

Flow Adjustment

NOTE: If flow to the diamond blade requires adjustment, perform the following actions.

(A) Increase cooling flow by releasing the Flow Adjusting Clamp.

(B) Reduce cooling flow by pressing down on the Flow Adjusting Clamp.
Blade Dressing

Like most cutting instruments, a diamond blade performs best when it is dressed. Over time and use, diamonds on the outer edge of the blade may become smoothed or "glazed" over. This will reduce grinding efficiency and may cause the blade to "wander" or bend giving the illusion of an alignment problem. When this occurs, the blade will need to be dressed. The diamond blade can be dressed using the MK Dressing Stick (MK Diamond part number 152972) and by following the steps below.

(A)
Cut the Dressing Stick 7 or 8 times to dress the Blade.

Diamond Blade Change-out

**NOTE:** When installing the Retaining Nut, **DO NOT** "cross-thread" and **DO NOT** over tighten the nut.

(A)
Locate the Shaft Lock, push button on the underside of the Cutting Head.

(B)
Remove Retaining Nut and Outer Flange, depress and hold the Shaft Lock hold button and loosen.

(C)
Remove the Diamond Blade.

(D)
Install the new Diamond Blade onto Blade Shaft. Install Outer Flange and Retaining Nut.

(E)
Verify the Blade is seated on the Blade Shaft and direction of rotation is correct.

(F)
Depress and hold the Shaft Lock button and tighten Retaining Nut.
V-Belt Inspection, Adjustment and Replacement

The MK-100 is designed with power transmission Micro-V Belt. In order to ensure the MK-100 operates a peak efficiency, the Micro-V Belt should be inspected monthly, and changed if the Micro-V Belt shows damage and/or excessive wear.

**NOTE:** When a new belt is installed, it should be inspected and re-tensioned after the first forty-eight (48) hours of operation.

(A) Remove the Diamond Blade.

(B) Remove the Cutting Head (See Cutting Head Adjustment Pg. 25).

(C) Remove the two top Belt Guard Bolts.

(D) Remove Belt Guard bottom bolt.

(E) Inspect the Micro-V Belt for cracks, fraying, separation and wear. Go to step H if replacement is required.

(F) Check belt for proper tension. If tension correct, go to step Q (proper tension should be 1/8-inch deflection).

(G) Loosen the two front motor mounting bolts. If re-tensioning only, go to step N.

(H) Loosen the two back motor mounting bolts.

(I) Loosen the Motor Adjustment Strap.
(J) Push the motor toward the front of the Cutting Head to loosen the V-Belt.

(K) Remove the V-Belt.

(L) Install the new V-Belt (MK Diamond Part No. 158194).

(M) Verify the V-Belt is seated in the grooves of both pulleys.

(N) Tighten the Motor Adjustment Strap to remove slack.

(O) Check V-Belt tension (proper tension 1/8-inch) Repeat steps N and O until proper Micro-V Belt tension is achieved.

(P) Tighten the four motor mounting bolts.

(Q) Install the Belt Guard.
**Cooling Flow**

(A) Check cooling flow Adjusting Clamp open.

(B) Remove the Cooling Transfer Tube from the Blade Guard inlet.

(C) Place Pump into a bucket of water and check flow.

(D) Remove the Cooling Transfer Tube and check flow.

(E) Inspect and clean pump. See Pump Manual.

(F) Remove the Blade Guard Intake Fitting and check.

**NOTE:** "Roddling" cooling channels is performed by inserting a small wire rod through the cooling inlet on top of the Blade Guard and directing the rod out through each of the cooling flow tubes located on the underside of the Blade Guard. The cooling channels should be "rodded" until all ports are free of foreign debris.

(G) Remove the Cooling Channel cover screws.

(H) Rod Cooling Channels and recheck flow.
Movable Cutting Table Does Not Move Correctly

(A) Check that the Guide Bar is clean - clean if dirty.

(B) Check the Movable Cutting table Roller Wheels for wear, replace if necessary.

Blade will not cut properly

(A) Check for smoothness or "Glazing" (See Blade Dressing Section)

(B) Check for proper blade rotation. Ensure arrow engraved on blade matches the directional arrow on Blade Guard.

(C) Ensure the Blade Core is not bent. Verify the blade is correct for the material being used.

Blade Stops Turning

(A) Allow motor to cool and depress motor Overload Reset Switch.

(B) Verify all plugs fully installed. Check Ground Fault Circuit Interrupter.

NOTE: Verify circuit breaker at least 20 amps - if not, move to 20-amp circuit. Verify circuit breaker not tripped. If tripped, reset once. Check power source voltage is 120V - if not 120V, move to another circuit.
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ROLLER WHEEL ASSEMBLY P/N 151756

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<td>SCREW, 5/16-18 X 3/8 SOCKET HEAD SET</td>
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<td>PULLEY, 6J19 X 5/8 BORE</td>
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<td>BUTTON, SHAFT LOCK</td>
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<td>SPRING, BLADE SHAFT LOCK</td>
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<td>RING, 1/4 E-STYLE RETAINING</td>
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<td>19</td>
<td>SHAFT, BLADE</td>
<td>158222</td>
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<td>CASTING, 10&quot; CTTG HEAD - COMP</td>
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<td>SCREW, HEX HD, TAP, 5/16-18X3</td>
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<td>22</td>
<td>FLANGE, Ø 2-3/8 INNER</td>
<td>162758</td>
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<td>23</td>
<td>SPACER, 9/16X5/16X1.5, PLAS</td>
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THEORY OF DIAMOND BLADES

Diamond blades do not really cut; they grind the material through friction. Diamond crystals, often visible at the leading edge and sides of the rim/segment, remove material by scratching out particles of hard, dense materials, or by knocking out larger particles of loosely bonded abrasive material. This process eventually cracks or fractures the diamond particle, breaking it down into smaller pieces. As a result, a diamond blade for cutting soft, abrasive material must have a hard metal matrix composition to resist this erosion long enough for the exposed diamonds to be properly utilized. Conversely, a blade for cutting a hard, non-abrasive material must have a soft bond to ensure that it will erode and expose the diamonds embedded in the matrix. These simple principles are the foundation of “controlled bond erosion”

Types of Cutting

There are two basic types of cutting-Dry or Wet. The choice of which type of blade to use depends on:

- The requirements of the job
- The machine/tool utilizing the Diamond Blade
- The preference of the operator

In the case of DRY cutting, the overwhelming popularity and quantity of hand-held saws and the flexible nature of MK Diamond blades to professionally handle most ceramic, masonry, stone and concrete materials, make the DRY cutting blade a very attractive tool. When using a DRY blade, the user must be aware of distinct operating practices to ensure optimum performance. DRY cutting blades require sufficient airflow about the blade to prevent overheating of the steel core. This is best accomplished by shallow, intermittent cuts of the material with periods of “free-spinning” (for several seconds) between each cut, to maximize the cooling process.

For WET cutting applications, MK has the exact blade to compliment both the material to be cut and the wet cutting machine to be used. During cutting operations, liberal amounts of water act as a coolant to support the cutting effectiveness and longevity of the WET blade. Additionally, using water adds to the overall safety of cutting operations by keeping the dust signature down.

KNOW ALL YOU CAN ABOUT THE MATERIAL YOU WISH TO CUT
<table>
<thead>
<tr>
<th>ITEM</th>
<th>NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
</table>
| 1.   | 137166 | **MK-200, 10 x 5/8 Arbor**  
Premium grade Diamond Blade for smooth, chip-free cutting on tile. |
| 2.   | 128074 | **MK-215, 10 x 5/8 Arbor**  
Supreme grade diamond blade for hard materials |
| 3.   | 153252 | **MK-315, 10 x 5/8 Arbor**  
Supreme super hi-rim diamond blade |
| 4.   | 134577-MK | Dual 45° Flat Angle Guide |
| 5.   | 153201-MK | 45° Bullnose Miter |
| 6.   | 134569-MK | 90° Protractor |
| 7.   | 152792 | Dressing Stone |
| 8.   | 152610 | Ground Fault Circuit Interrupter |
| 9.   | 168244 | Folding Stand |
| 10.  | 169243 | Folding Stand with Casters |
ORDERING INFORMATION
You may order MK Diamond products through your local MK Diamond distributor or, you may order direct from MK Diamond.

When ordering direct from MK Diamond, please have the following information ready before calling:
• The Model Number of the saw
• The Serial Number of the saw
• Where the saw was purchased and when
• The Part Number for the part(s) being ordered
• The Part Description for the part(s) being ordered

NOTE: Standard orders are $50.00 or more when ordering direct from MK Diamond. A $6.00 charge will be added to orders having a net billing value under $50.00. A nominal handling fee of $5.00 may apply to some orders.

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.

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 all items, they must have been purchased within the previous twelve (12) months.
• Have the Model Number of the saw
• Have the Serial Number of the saw
• Have the location of where the saw was purchased
• Have the date when the saw was purchased
• Contact Customer Service for approval to return the item(s)
• Obtain a Returned Goods Number (RGA) authorizing the return
• Follow the packaging instructions in the following section
• Ensure the RGA number is on the outside of the returned package
• Ensure your item(s) are prepaid to the destination
For returned items, call toll free to – 800 421-5830 or 310 539-5221 and ask for Customer Service.

PACKAGING INSTRUCTIONS
• Remove the Cutting Head and Support Angle Assembly
• Dry the saw before shipping
• When packing, include the following: Saw, Diamond Blade, Blade Guard and Support Angle Assembly and Adjustable Cutting Guide (Other Accessories are not required)
• Package the unit in its original container or one of comparable size (do not ship the unit partially exposed)
• 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 or visit our web site at www.mkdiamond.com. For technical questions, call – 800 474-5594.
CONTACT
Please contact MK Diamond Products, Inc. Customer Service Department with any questions you might have regarding distributors, parts or service.
Telephone: (800) 421-5830
Fax: (310) 539-5158
E-mail: Customer_Service@MKDiamond.com
Customer Service Hours: Monday through Friday, 6AM-4PM PST

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

MK DIAMOND PRODUCTS, INC. LIMITED WARRANTY

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.

WARRANTY: For your (1) one year warranty to be effective, complete the online Product Registration as soon as possible. Visit www.mkdiamond.com/registration

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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.
MK-100 TILE SAW
OWNER'S MANUAL & OPERATING INSTRUCTIONS