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BX-3 MASONRY SAW

OWNER'S MANUAL, PARTS LIST & OPERATING INSTRUCTIONS



Revision 101	04.2015
Manual Part No. 158168	

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

INTRODUCTION

Congratulations on your purchase of a Diamond Vantage Tile Saw. We are certain that you will be pleased with your purchase. We take pride in producing the finest construction power tools and diamond blades in the industry.

Operated correctly, your 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 Saw safely and correctly. Please take a few minutes to familiarize yourself with the Saw by reading and reviewing this manual.

If you should have questions concerning your Saw, please feel free to call our friendly customer service department at: 866.322.4078

Regards,

Diamond Vantage

NOTE THIS INFORMATION FOR FUTURE USE:

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

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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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!



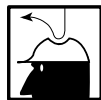
ALWAYS read this Owner's Manual before operating the machine. **DO NOT** operate or service this equipment before reading this entire manual. Read and understand all warnings, instructions and controls on the machine. Know how to stop the equipment quickly in case of emergency. It is the operators responsibility 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 occurs, 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.

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>

Observe OSHA regulations for respirator use (29 C.F.R. §1910.134).

Visit <http://www.osha.gov> for more information.

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, 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>

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

Sawing, grinding and drilling generate dust. Excessive airborne particles may cause irritation to eyes, skin and respiratory tract. To avoid breathing impairment, always employ dust controls and protection suitable to the material being sawed or drilled; See OSHA (29 CFR Part 1910.1200).

ELECTRICAL REQUIREMENTS AND GROUNDING INSTRUCTIONS

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

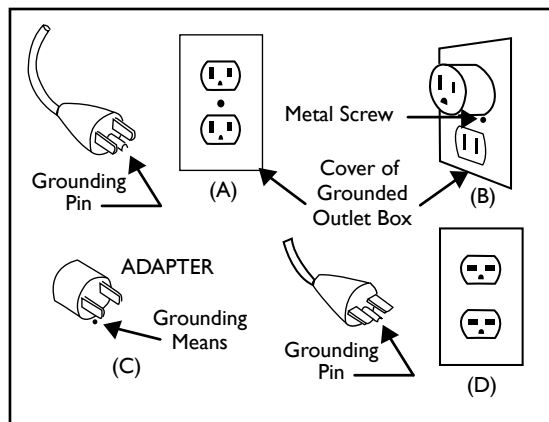


WARNING

In case of a malfunction or breakdown, grounding provides a path of least resistance for 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

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

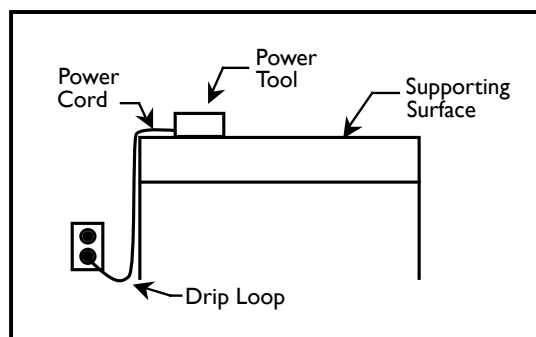
The water pump requires a GFCI. To reduce risk of electrical shock when operating the machine with the pump plugged into the 3-pole receptacle on the motor, connect the machine to a GFCI outlet. See the pump manual and informational tags enclosed separately for all pump information.

**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.



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 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.

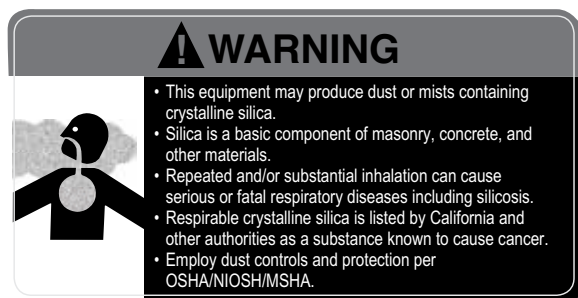
To choose the proper extension cord,

- 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.

MOTOR SPECS			EXTENSION CORD LENGTH		
Motor	Voltage	Amps	25'	50'	100'
157801	120V 1 Ph	15	14 ga	10 ga	8 ga

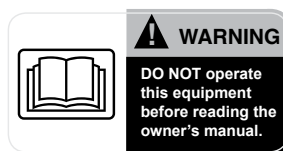
SAFETY LABEL LOCATIONS

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.



Part # 164202

A



Part # 154398

B



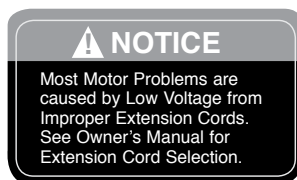
Part # 155038

C



Part # 170480

D



Part # 155672

E



Part # 155587

F

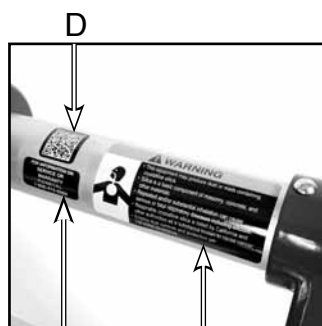


Part # 155588

G

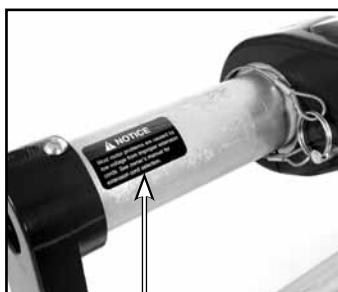


B



C

A



E



G



F

Decal/Label	Location	Description
A	Arm	Warning - Silica
B	Motor	Warning - Read Manual
C	Arm	Service/ Warranty
D	Arm	QR Code for Manual
E	Arm	Notice - Extension Cord
F	Blade Guard	Caution - Guards in Place
G	Blade Guard	Warning - Replace Blade Guard

PRODUCT SPECIFICATIONS:

The BX-3 is a versatile lightweight, dry, masonry saw. Operated and used according to this manual, the BX-3 will provide years of dependable service.

General Description:

The BX-3, Brick Xtreme, is engineered as a 14" dry saw, consisting of a powerful 115v motor in a hard plastic case. The saw is capable of cutting brick and masonry up to 8" x 8" x 16" in size; the blade has a five (5) inch cutting depth.

Motor and Weight Specifications:

Motor and Weight specifications for the BX-3 are listed in Table 2 below.

Voltage	115 v
Amperage	15 A
Frequency	60 Hz
RPM	3,500 rpm
Weight	45 lbs.*

Table 2

Blade Capacity:

The BX-3 uses a 14-inch diameter segmented dry MK Diamond blade with a .110-inch cutting width.

Masonry Types:

The BX-3 can cut a variety of masonry types including, cinder block, slump stone block, wall brick, paver brick, concrete block and cylinders, roofing tile, marble, granite, decorative rock or almost any other non-ferrous material.

NOTE:

The BX-3 is not designed to cut plastic or ferrous (metals) material.

Spring Assisted Cutting Head:

The BX-3 is designed with a spring assisted Cutting Head to allow for easier step cutting. The Cutting Head can be locked in the down position when cutting smaller pieces.

Lockable Trigger Switch:

The BX-3 is designed with a lockable trigger-operating switch in the handle to allow for ease of operation.

Removable Motor Air Filter:

The BX-3 is designed with an easy clean motor air filter to extend the life of the motor.

Replaceable Motor Brushes:

The BX-3 is designed with replaceable motor brushes to extend operating life.

UNPACKING:

Your BX-3 has been shipped from the factory thoroughly inspected. Only minimal assembly is required.

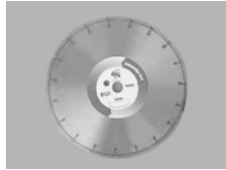
If not already done, remove the BX-3 from the carton and place it on a flat surface. Remove Strapping. Remove the Accessories box from the main carton and place along side the BX-3 (Owners Manual is in Accessories Box).

CONTENTS:

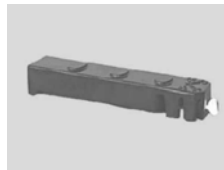
In the containers, you will find one (1) BX-3, one (1) 14 inch segmented dry diamond blade (or segmented block blade), one (1) movable cutting table, one (1) adjustable cutting guide, one replacement motor air filter, one (1) blade wrench, one (1) shaft wrench, one (1) owner's manual and one (1) warranty card.



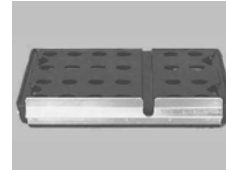
BX-3



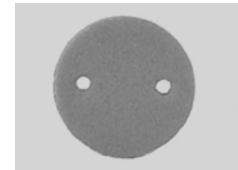
**Segmented Dry
Diamond Blade**



**Adjustable
Cutting Guide**



**Movable Cutting
Table**



**Extra Motor
Air Filter**



**Blade
Wrench**



**Shaft
Wrench**



**Owner's
Manual**



**Warranty
Card**

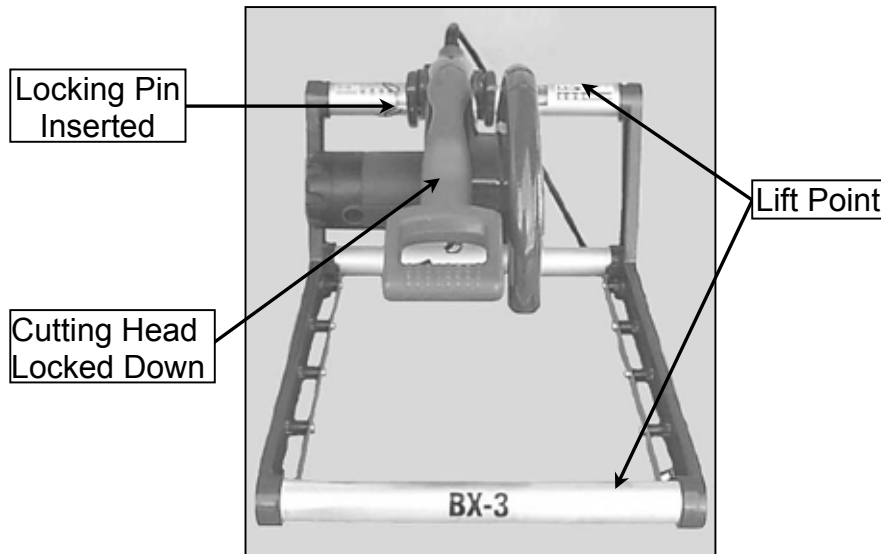
TRANSPORT:

The BX-3 weighs approximately forty (45) pounds (Without the Movable Cutting Table), making transport easy.

CAUTION Always observe safe lifting practices when lifting the BX-3.

NOTE: Lock the Cutting Head in the DOWN position, and remove the Movable Cutting Table when transporting the BX-3.

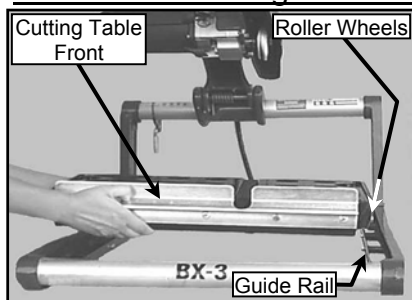
Due to its lightweight construction, the BX-3 is designed to be carried by the durable aluminum frame. Simply lock the spring assisted cutting head in the DOWN position, grasp the frame by the lower front and upper back cross members, lift and transport the BX-3 to the desired work location



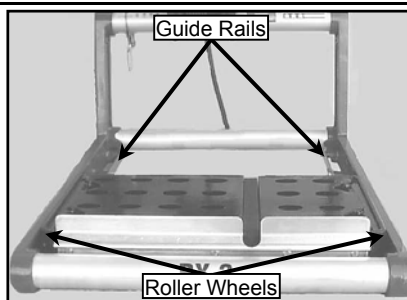
ASSEMBLY:

Follow the assembly instructions to prepare your BX-3 for operation.

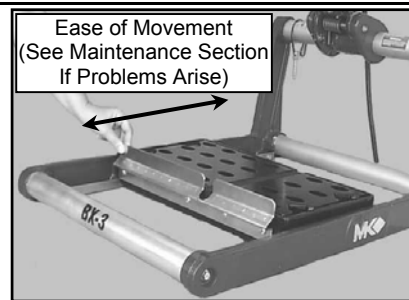
1. Movable Cutting Table Installation:



(A)
Position Movable Cutting Table

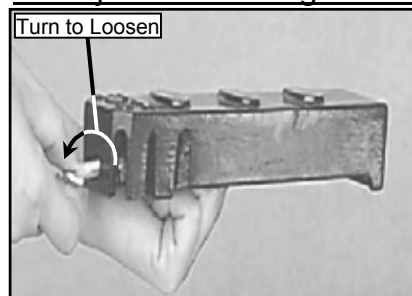


(B)
Seat Roller Wheels on
Guide Rails

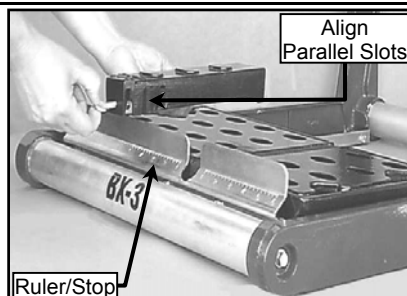


(C)
Verify Correct Seating

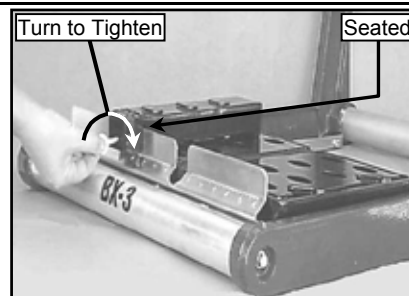
2. Adjustable Cutting Guide Installation:



(A)
Loosen Thumbscrew



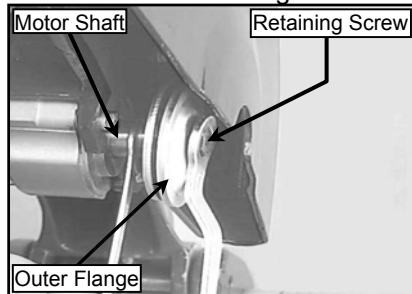
(B)
Position Adjustable Cutting Guide



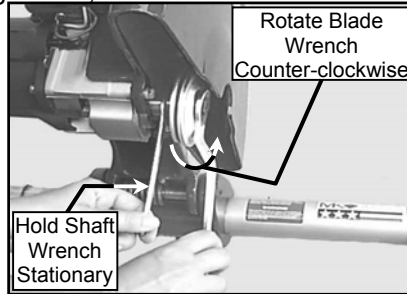
(C)
Seat and Tighten
Adjustable Cutting Guide

3. Diamond Blade Installation:

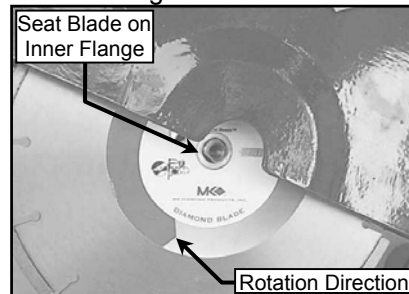
NOTE: When installing the Retaining Screw, do not "cross-thread" and DO NOT over tighten the screw.



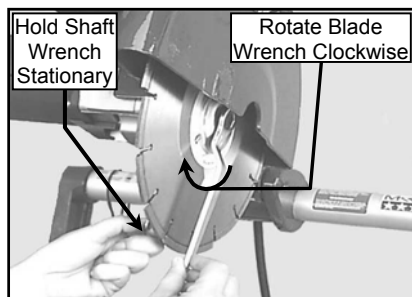
(A)
Identify Retaining Screw
and Outer Flange



(B)
Remove Retaining Screw
and Outer Flange



(C)
Install and Seat Blade –
Verify Rotation



(D)
Install Retaining Screw and
Outer Flange - Tighten

SETUP:

⚠ 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 trigger switch, locking button is in the "RELEASE" position.
- Before connecting the BX-3 to a power supply, be sure the voltage, cycle and phase of the job site power source meet the requirements of TABLE 3

VOLTAGE:	115v
CYCLE:	60hz
PHASE:	single phase

TABLE 3

- If using an extension power cord, make sure the length and wire gauge corresponds to the requirements listed in TABLE 1 on page 7. 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.

Portable Generator:

If using a portable generator to provide power, ensure the generator meets the following minimum requirements:

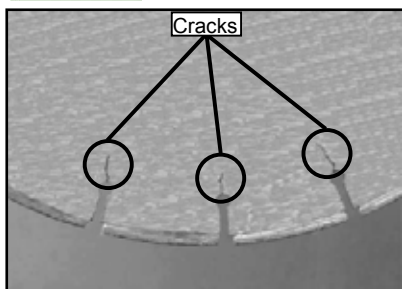
8 kW 120/240 volts 66.7/33.3 amps Single Phase

Pre-start Inspection:

The pre-start inspection should be performed before beginning any job.

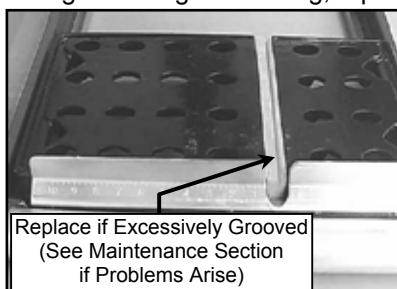
NOTE: In order to avoid breaker tripping, a 20-amp circuit breaker should be used.

⚠ CAUTION If the Diamond Blade shows signs of fatigue cracking, replace the blade before starting work.



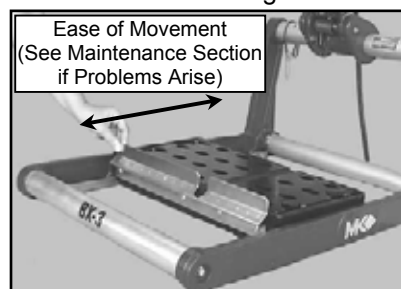
(A)

Inspect Blade for Damage – Verify Blade Correct for Material Being Cut



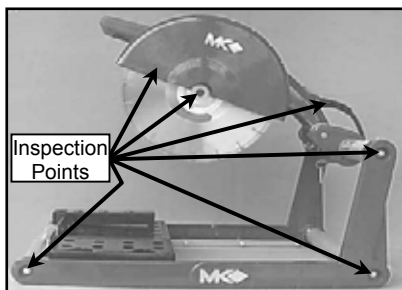
(B)

Inspect Wooden Strip for Excessive Grooves



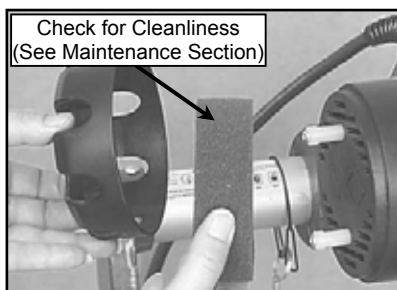
(C)

Movable Cutting Table Moves Freely



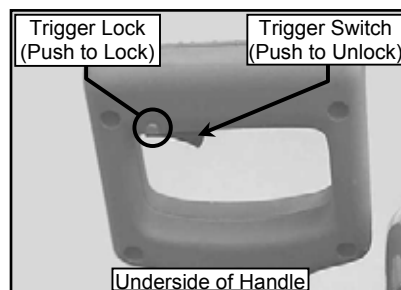
(D)

Inspect for Damage



(E)

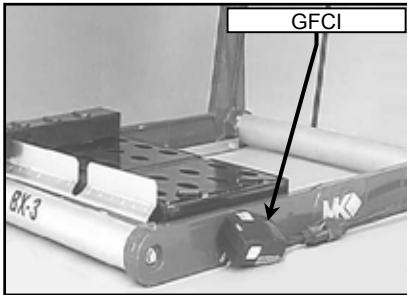
Inspect Motor Air Filter for Cleanliness



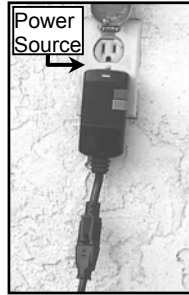
(F)

Verify Trigger Switch Unlocked

⚠CAUTION If an extension cord is used, first verify it meets the requirements of TABLE 1 (page 9). Plug the BX-3 into the extension cord; plug the extension cord into a GFCI. Finally, plug the GFCI into the power source in that order.



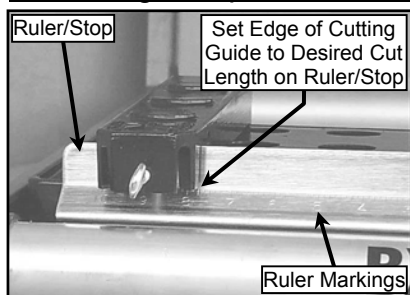
(G)
Plug GFCI into BX-3



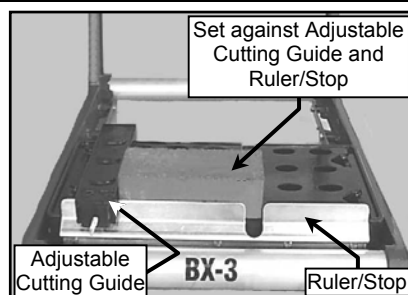
(H)
Plug GFCI into Power Source

ADJUSTMENT AND OPERATION:

1. Cutting Setup:



(A)
Set Adjustable Cutting Guide



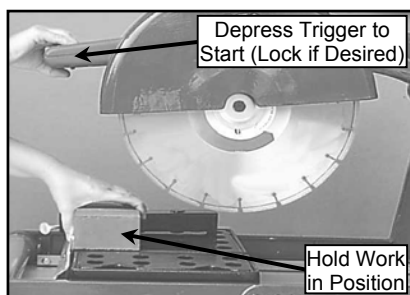
(B)
Position Masonry Piece

CAUTION DO NOT FORCE the blade to cut, it will do the job better and safer at rate for which it was designed.

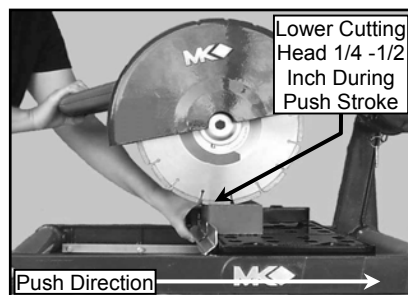
2. Step Cuts:

A Step Cut is performed when a series of small cuts of increasing depth are used to complete a single cut. Step Cuts are used for large objects or for hard objects such as Firebrick and Pavers.

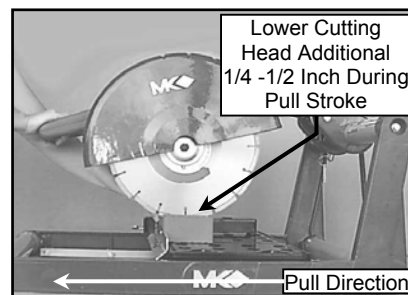
- NOTE:
1. Step Cutting is the preferred cutting method for all cuts.
 2. When cutting hard material Step Cutting should always be used.
 3. Step Cutting will extend the life of the Diamond Blade.



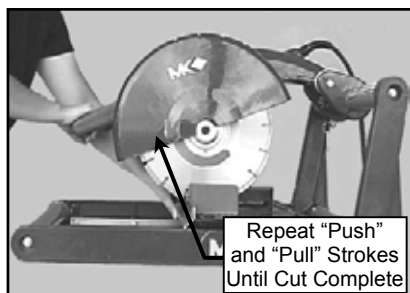
(A)
Step Cut Setup



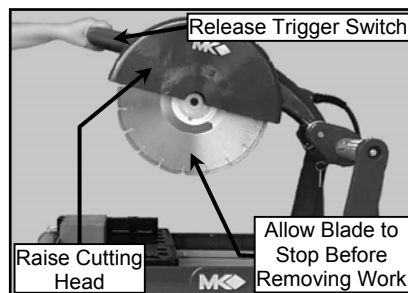
(B)
Step Cut "Push" Stroke



(C)
Step Cut "Pull" Stroke



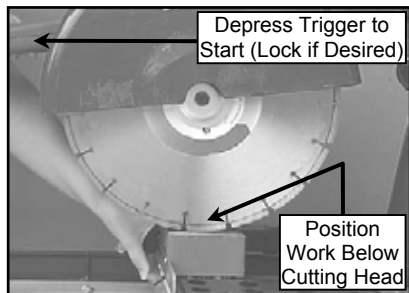
(D)
Repeat Steps B and C
Until Cut Complete



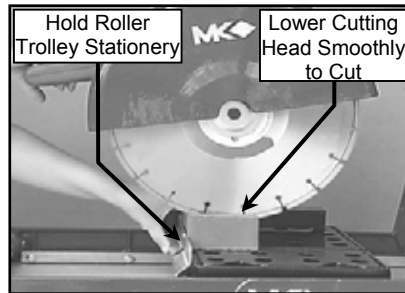
(E)
Cutting Complete

3. Chop Cutting:

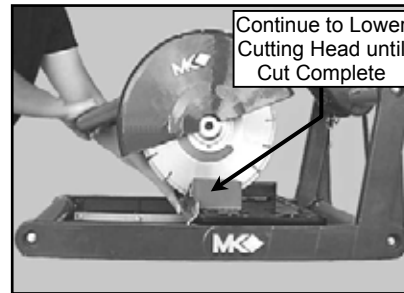
A Chop Cut is performed by cutting completely through an object in one pass.



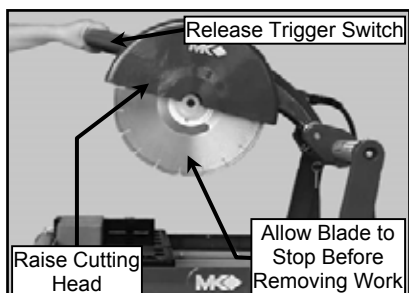
(A)
Chop Cut Setup



(B)
Lower Cutting Head to Begin Cutting



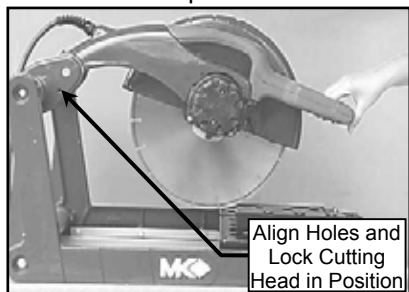
(C)
Continue Lowering Head until Cut Complete



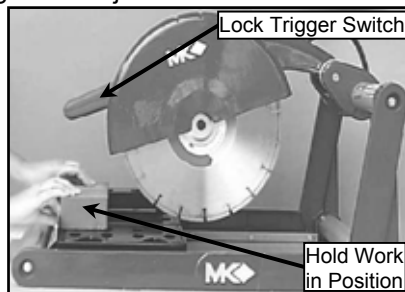
(D)
Cutting Complete

4. Cutting with the Cutting Head Locked Down:

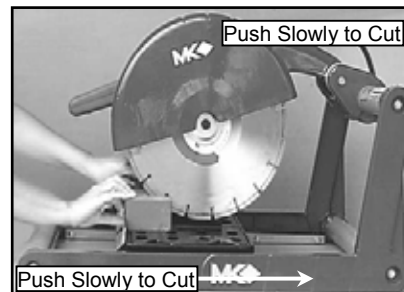
This method is preferred when cutting small objects.



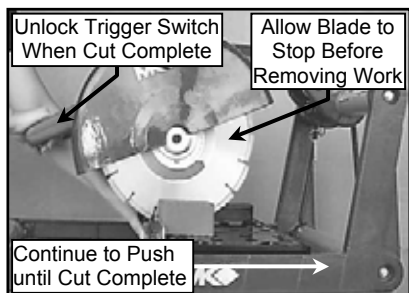
(A)
Lock Cutting Head in the Down Position



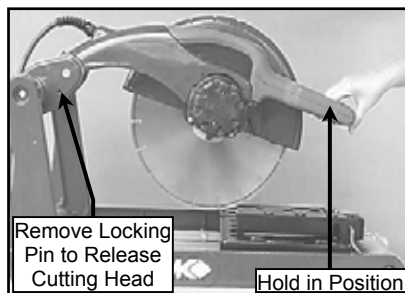
(B)
Locked Cutting Head Setup



(C)
Slowly Push Piece toward Blade to Begin the Cut



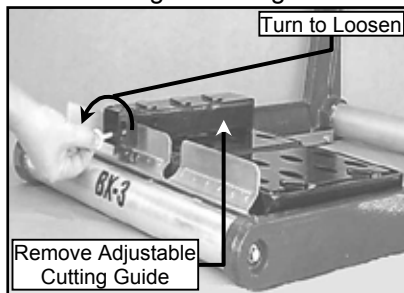
(D)
Continue Pushing Piece into Blade until Cut Complete



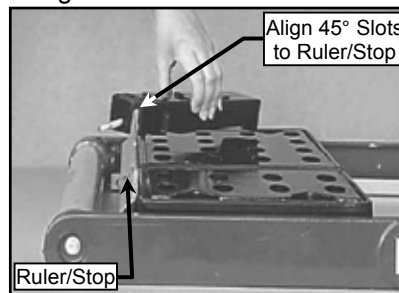
(E)
Cutting Complete

5. Angle Cuts:

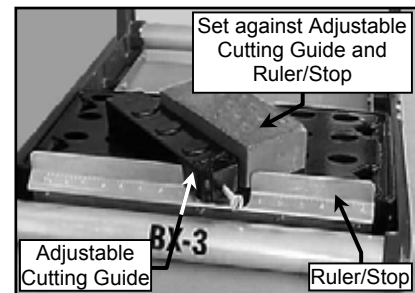
Angle Cuts may be performed using the Step Cut, Chop Cut or the Locked Cutting Head cutting methods. The following is utilizing the Locked Cutting Head method.



(A)
Remove Adjustable
Cutting Guide

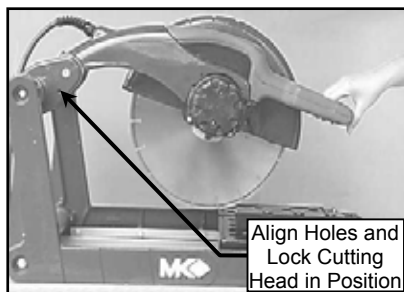


(B)
Reposition Adjustable
Cutting Guide

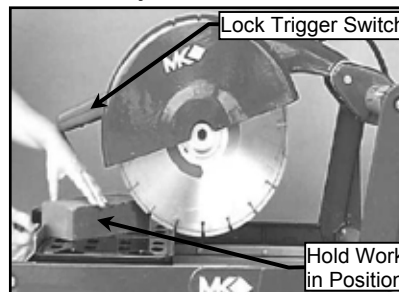


(C)
Position Adjustable
Cutting Guide

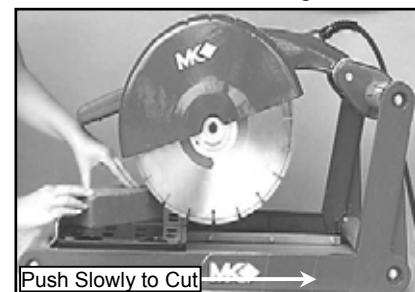
CAUTION DO NOT FORCE TOOL, it will do the job better and safer at the rate for which it was designed.



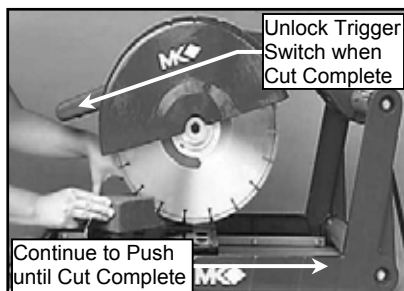
(D)
Lock Cutting Head in
the Down Position



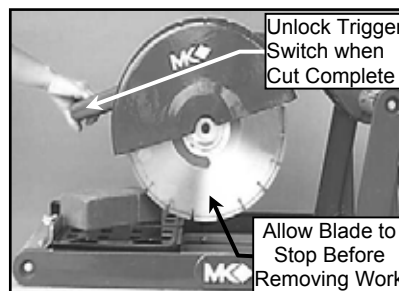
(E)
Locked Cutting Head Setup



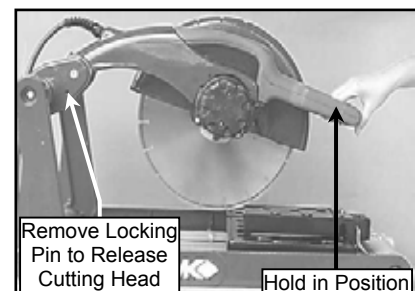
(F)
Slowly Push Piece toward Blade
to Begin the Cut



(G)
Continue Pushing Piece into
Blade until Cut Complete



(H)
Cutting Complete



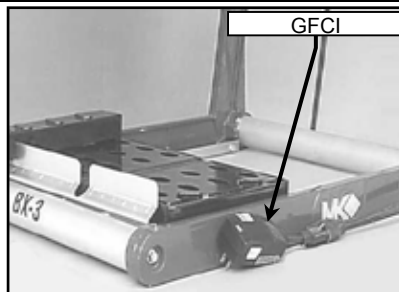
(I)
Release Cutting Head

6. Cleanup:



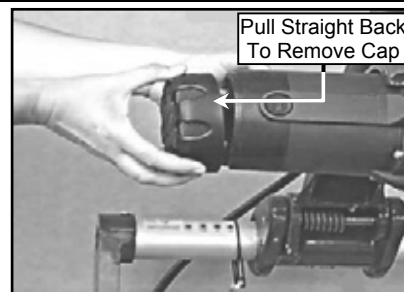
(A)

Unplug GFCI from Power Source



(B)

Unplug GFCI from BX-3

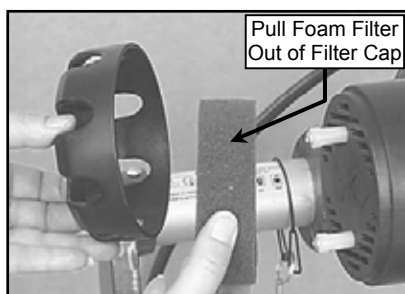


(C)

Remove Motor Filter Cap

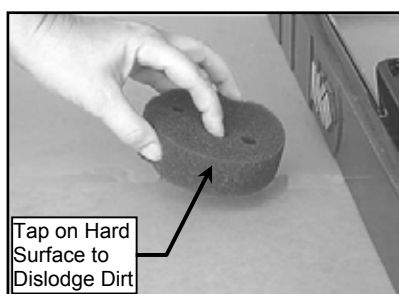


WARNING Always wear eye protection when using compressed air.



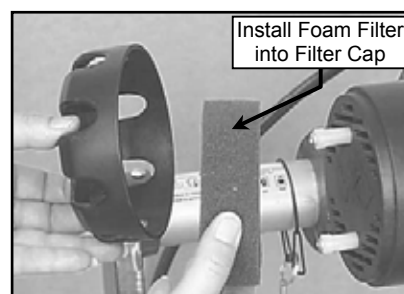
(D)

Remove Filter from Filter Cap



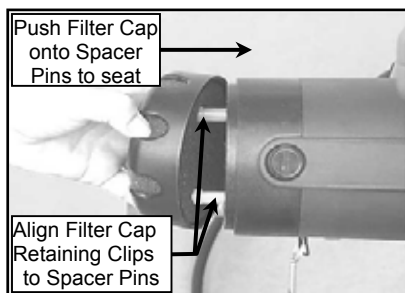
(E)

Clean Filter by Tapping on Hard Surface or using Compressed Air



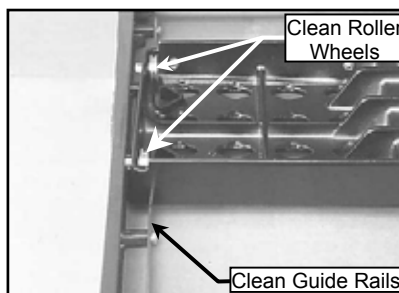
(F)

Reinstall Filter into Filter Cap



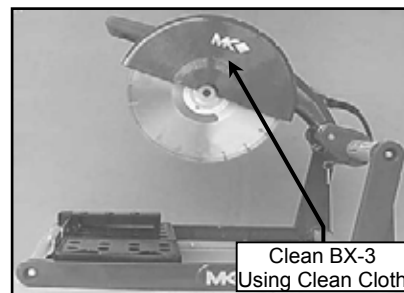
(G)

Install Motor Filter Cap onto Motor



(H)

Clean the Movable Cutting Table Roller Wheels and Guide Rails



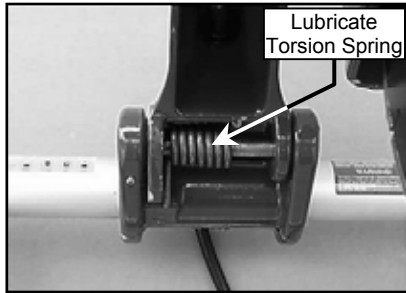
(I)

Clean Remainder of BX-3

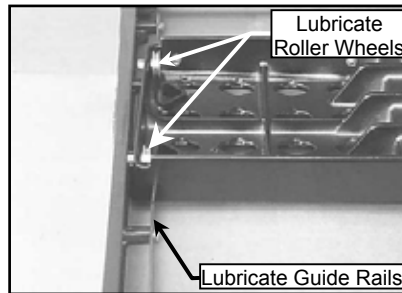
MAINTENANCE:

1. General Maintenance:

The following maintenance should be performed following each use. Use Light oil, such as WD-40 or 3 in 1 when lubricating parts.



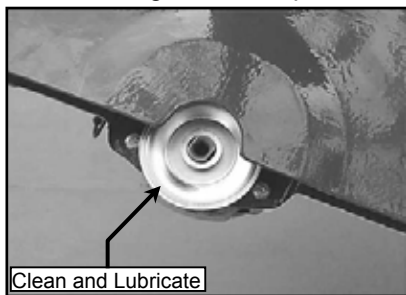
(A)
Lubricate Cutting Head
Torsion Spring



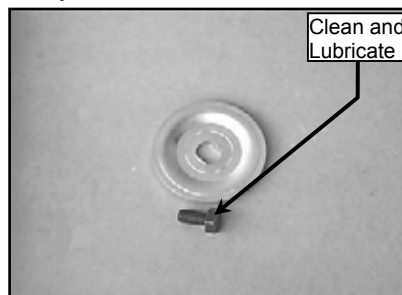
(B)
Lubricate Movable Cutting Table
Roller Wheels and Guide Rails

2. Monthly Maintenance:

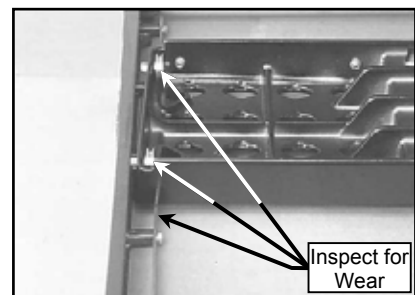
The following should be performed monthly. Items should be lubricated as directed.



(A)
Clean and Lubricate Inner Flange
and Motor Shaft



(B)
Clean and Lubricate
Blade Retaining Screw



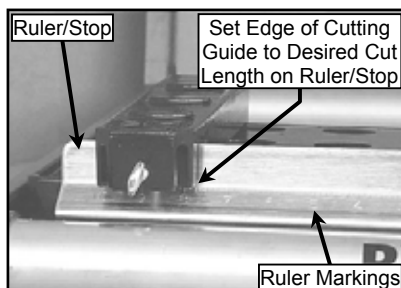
(C)
Check Roller Wheels and
Guide Rails for Wear

3. Blade Dressing:

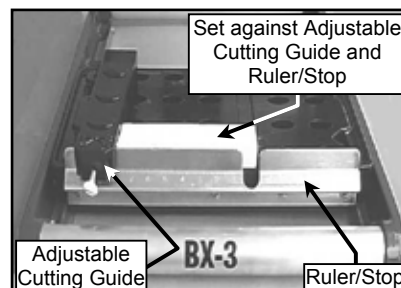
Like most cutting instruments, a diamond blade performs best when it is dressed. Over time and use, diamonds on the outer edge will become smooth or “glazed” over. This will reduce grinding efficiency and may cause the blade to “wander” or bend, giving the illusion of an alignment problem. When this occurs, the blade will need to be dressed. The diamond blade can be dressed using the MK Dressing Stick (part number 152792) and by following the steps below.



(A)
Set BX-3 for Operation

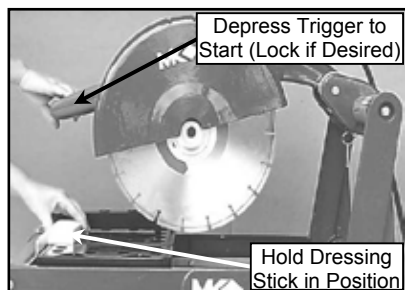


(B)
Set Adjustable Cutting Guide to Cut 1/16-inch Strips

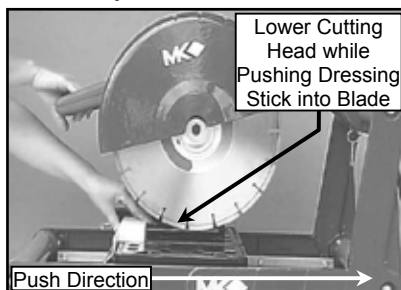


(C)
Position Dressing Stick

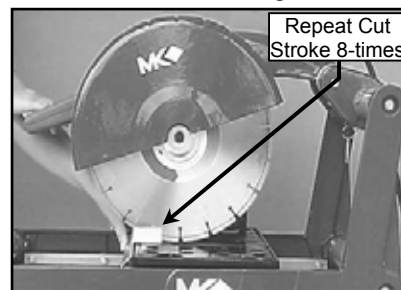
⚠CAUTION DON'T FORCE TOOL, it will do the job better and safer at the rate for which it was designed.



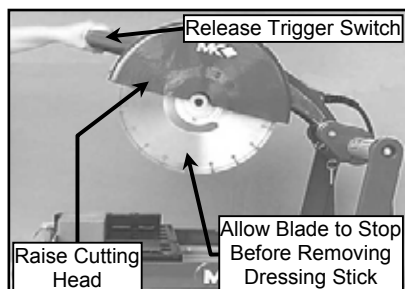
(D)
Set up for Blade Dressing



(E)
Begin Blade Dressing



(F)
Repeat Cut Stroke to Dress Blade



(G)
Dressing Complete

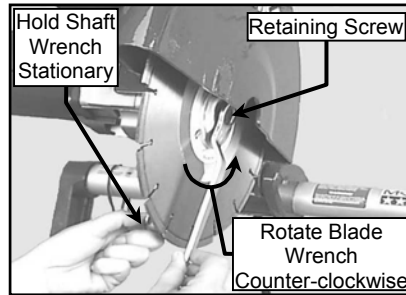
4. Diamond Blade Change-out:



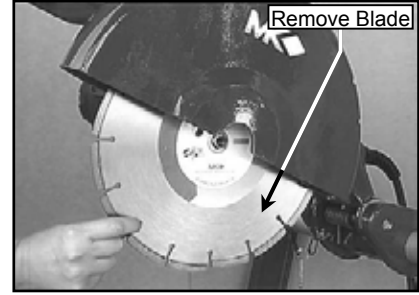
⚠ WARNING Disconnect the tool before servicing and when changing accessories, such as blades, bits, cutters, and the like.



(A)
Setup BX-3 for Operation

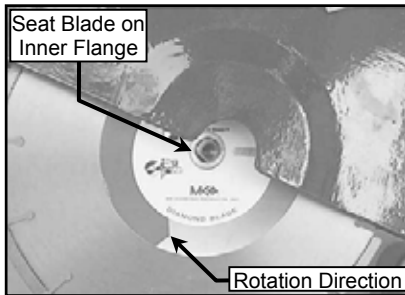


(B)
Remove Retaining Screw
and Outer Flange

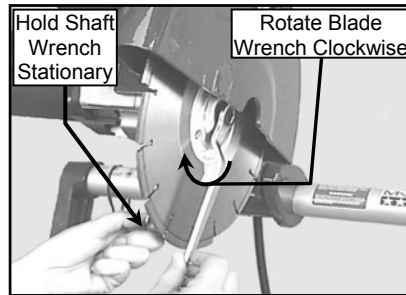


(C)
Remove Blade from
Motor Shaft

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



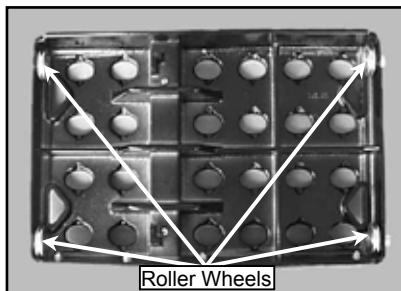
(D)
Install Blade Under Blade Guard
and Onto Motor Shaft



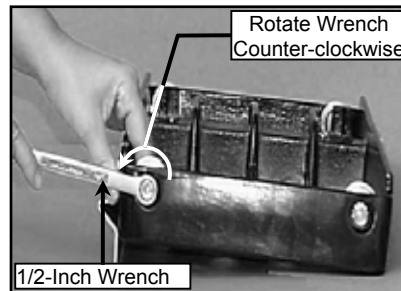
(E)
Install Outer Flange and
Retaining Screw – Tighten

5. Movable Cutting Table Wheel Change Out:

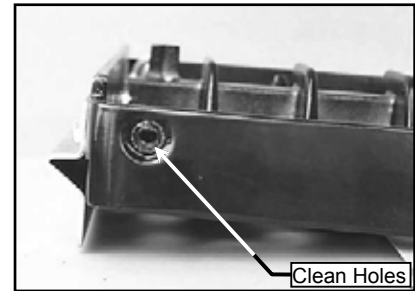
NOTE: All four (4) Movable Cutting Table, Roller Wheels should be replaced at the same time (MK Diamond Part No. – 133090).



(A)
Place Movable Cutting
Table On Work Bench
with Roller Wheels Up

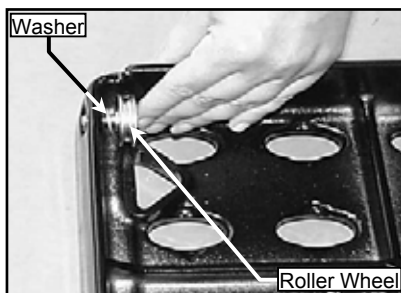


(B)
Remove Roller Wheels

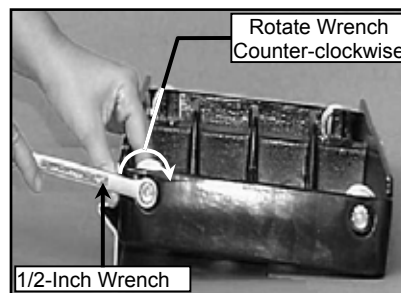


(C)
Prepare for Installation
Of New Roller Wheels

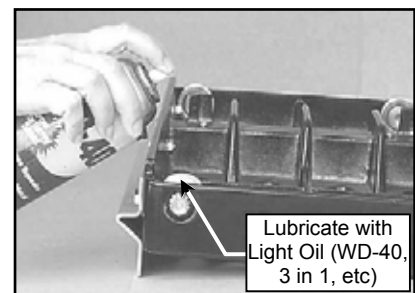
NOTE: When installing the Retaining Bolt, do not "cross-thread" and DO NOT over tighten the Nut.



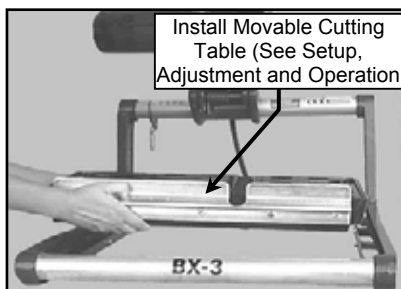
(D)
Install Wheel/Washer Assembly
Into Movable Cutting Table



(E)
Install Roller Wheel
Retaining Nut – Tighten



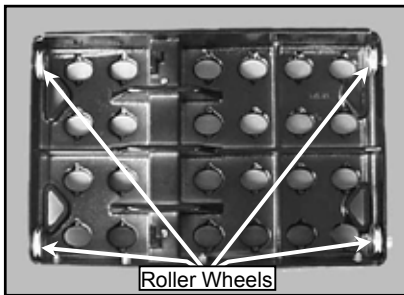
(F)
Lubricate Roller Wheels



(G)
Install Movable Cutting Table

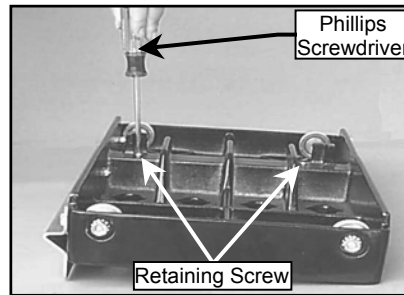
6. Protective Wooden Strip Replacement:

The protective wooden strip is to protect the Movable Cutting Table from damage during operation. Over time, the wooden strip will become grooved from use. A grooved wooden strip will not support masonry during cutting, causing the blade to "break through" the piece instead of performing a smooth cut (MK Diamond Part No. – 156427).



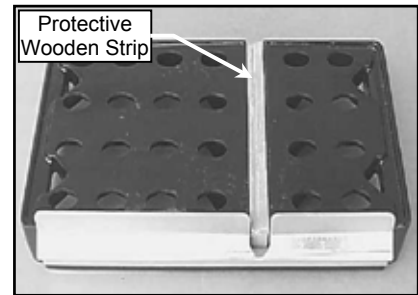
(A)

Place Movable Cutting Table on Work Bench – Wheels Up with Roller Wheels Up



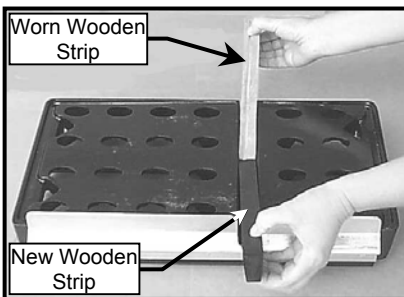
(B)

Remove the Two Protective Wooden Strip Retaining Screws



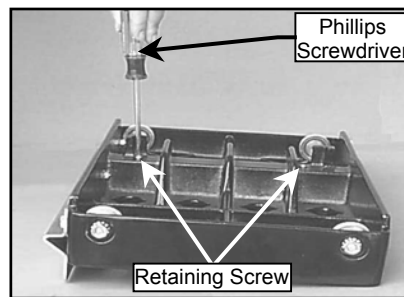
(C)

Place Movable Cutting Table on Work Bench – Wheels Down



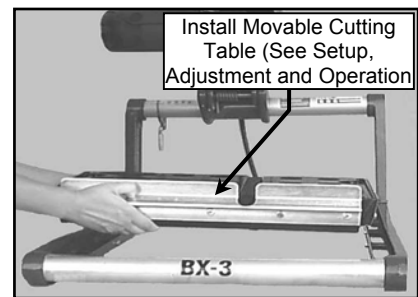
(D)

Replace Worn Protective Wooden Strip



(E)

Place Movable Cutting Table on Work Bench – Wheels Up, Reinstall Retaining Screws



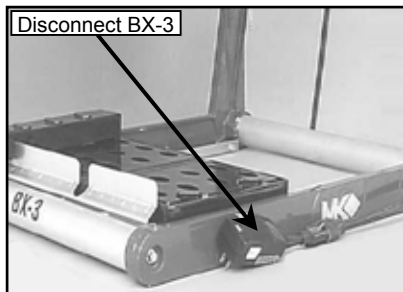
(F)

Install Movable Cutting Table

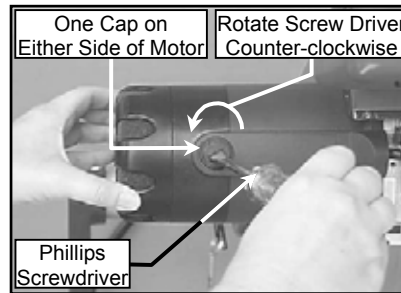
7. Motor Brush Change-out:



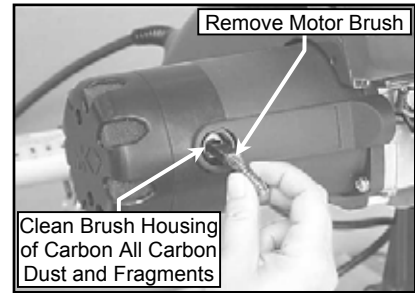
⚠ WARNING Disconnect the tool before servicing and when changing accessories, such as blades, bits, cutters, and the like.



(A)
Disconnect the BX-3

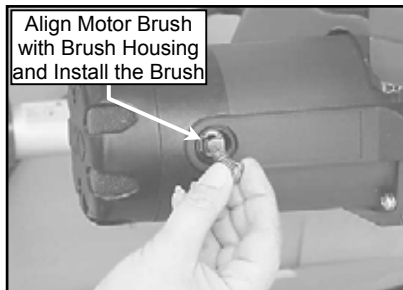


(B)
Locate and Remove One Motor Brush Cap

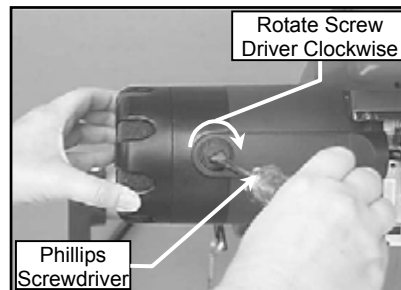


(C)
Remove Motor Brush and Clean Brush Housing

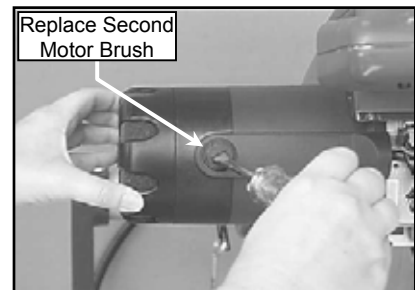
NOTE: When installing motor brushes, care must be taken to ensure the spring end is straight before installing the Motor Brush Cap.



(D)
Align and Install New Motor Brush



(E)
Install Motor Brush Cap

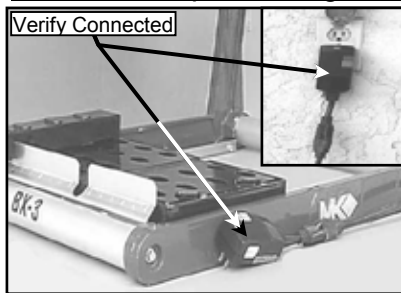


(F)
Install the Second Motor Brush (Repeat Steps B to E)

TROUBLESHOOTING:

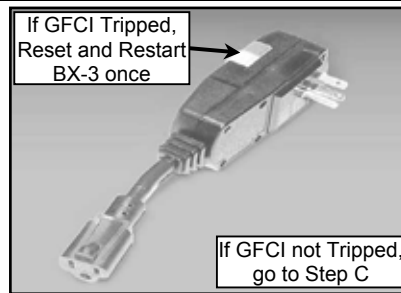
⚠ WARNING Verify the Lockable Switch is unlocked and the saw is disconnected from the power source before performing any troubleshooting procedure.

1. Motor Stops Turning:



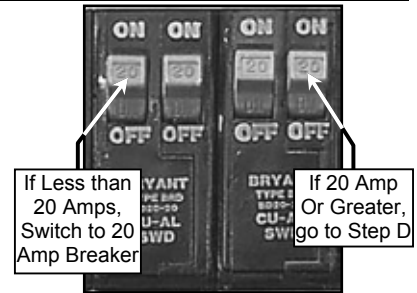
(A)

Verify all Plugs Fully Connected
If Connected, go to Step B



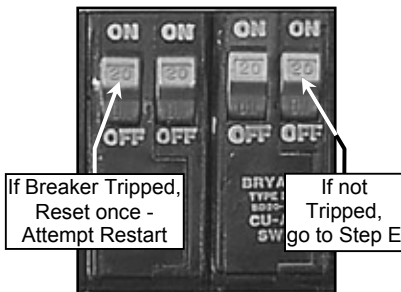
(B)

Check Ground Fault Circuit Interrupter (GFCI) Tripped



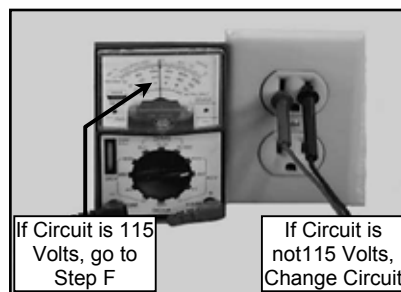
(C)

Verify Circuit Breaker is 20 Amp or Greater



(D)

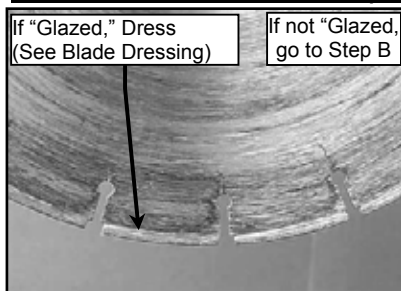
Verify Circuit Breaker Not Tripped



(E)

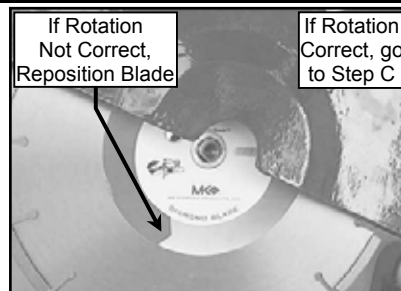
Verify Source Voltage is 115 Volts

2. Blade Will Not Cut Properly:



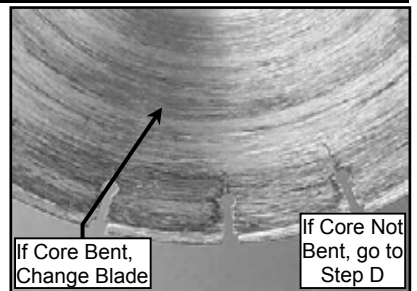
(A)

Check for Smoothness or "Glazing"



(B)

Check for Proper Rotation



(C)

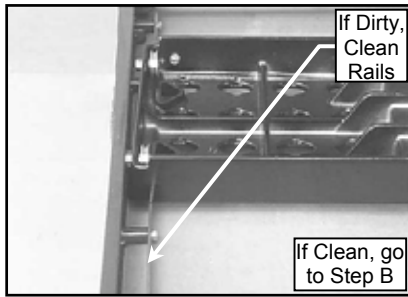
Ensure Blade Core Not Bent



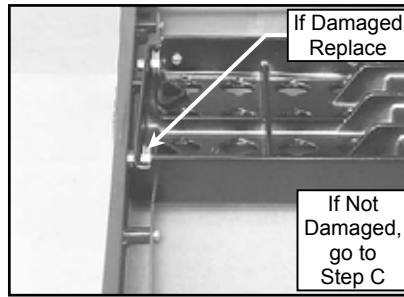
(D)

Verify Blade Correct for Material Being Used

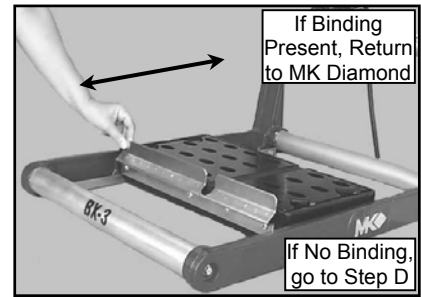
3. Movable Cutting Table Does Not Move Correctly:



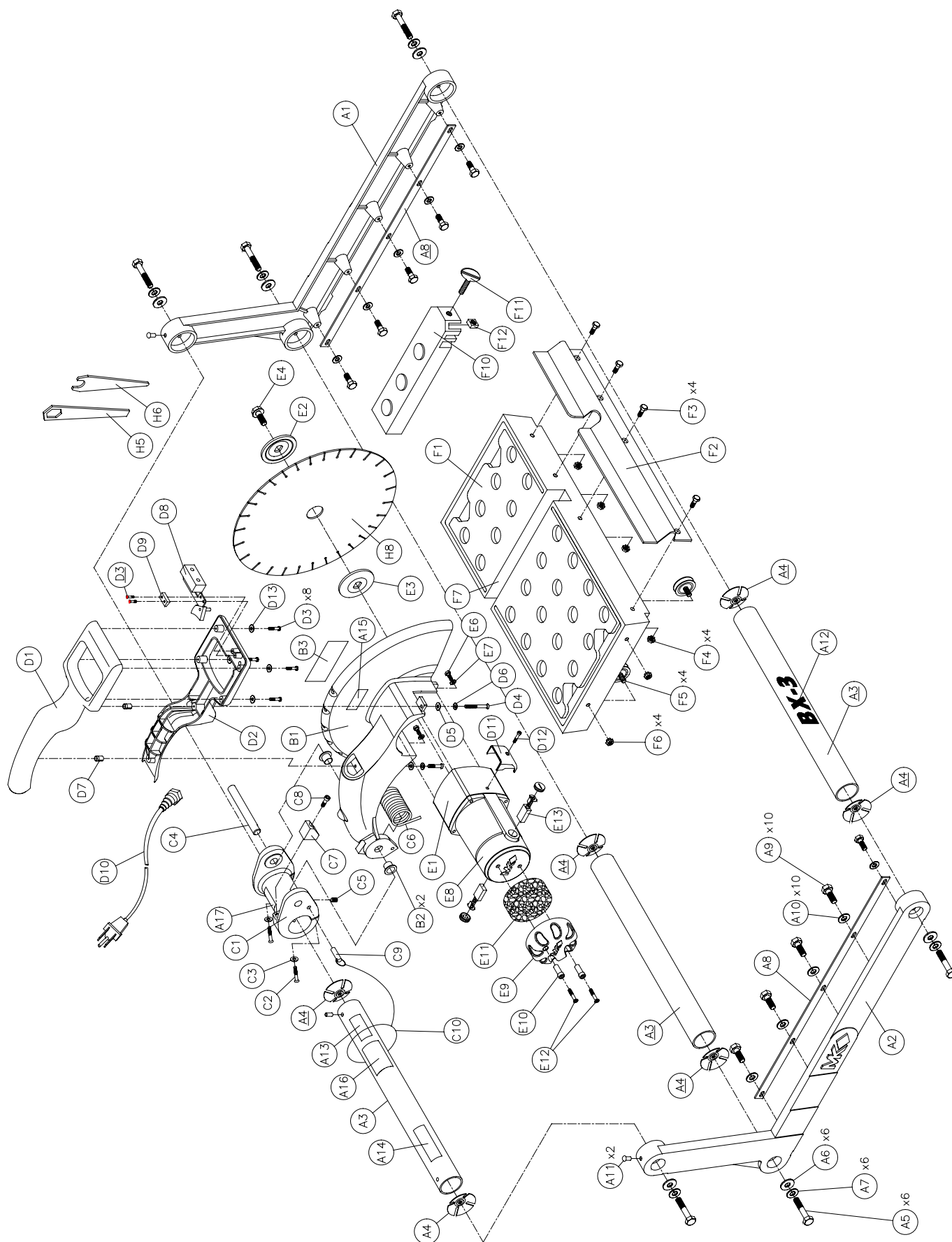
(A)
Check Guide Rails Clean



(B)
Check for Roller
Wheel Damage



(C)
Verify Ease and Freedom
of Movement



PARTS LIST:

Item	Description	Qty	MK p/n
A	Assembly, Frame, Right	1	n/a
A1	Casting, Frame, Right	1	157367
A2	Casting, Frame, Left	1	157369
A3	Support, Horizontal Frame	3	157384
A4	Tube Connector, 1/4-20	6	157930
A5	Screw, 1/4-20 x 1 1/2 Hex Head Cap	6	151914
A6	Washer, 1/4 SAE Flat	6	151915
A7	Washer, 1/4 Split Lock	6	152591
A8	Strap, Table Guide Rail	2	157383
A9	Screw, 1/4-20 x 3/4, Hex Head Cap	10	152370
A10	Washer, 1/4 Split Lock	10	152591
A11	Drive Stud, Round Head Grooved #16 (1/4) x 1/2	2	158071
A12	Label, Adhesive "BX3"	1	157959
A13	Label, Safety Caution	1	155576
A14	Label, MK USA	1	154334
A15	Tag, Serial, Brick Saw	1	158096
A16	Label, Prop 65	1	154337
A17	Label, Warning, Extension Cord	1	155672
B	Assembly, Arm, Motor Mount	1	n/a
B1	Casting, Arm, Motor Mount	1	157599
B2	Bushing, Nylon Flange	2	157932
B3	Label, Adhesive "Brick Xtreme"	1	157958
C	Assembly, Pivot Clamp	1	n/a
C1	Casting, Pivot Clamp	1	157593
C2	Screw, 1/4-20 x 1 1/4 Socket Hd. Cap	2	154683
C3	Washer, 1/4 Split Lock	2	152591
C4	Pin, Pivot .625 x 5.6	1	157645
C5	Screw, Set 1/4-20 x 1/4 Cup Point	1	157528
C6	Spring, Torsion	1	157702
C7	Stop Block	1	158226
C8	Screw, 1/4-20 x 5/8, Socket Hd Cap	1	152587
C9	Pin, Detent w/ Pull Ring	1	157933
C10	Lanyard	1	158072
D	Assembly, Handle & Switch	1	n/a
D1	Handle, Upper	1	157874
D2	Handle, Lower	1	157875
D3	Screw, M3.5 x 12mm	8	158156
D4	Screw, 1/4-20 x 3/4, Socket Hd. Cap	2	152587
D5	Washer, 1/4 SAE, Flat	2	151915
D6	Washer, 1/4 Split Lock	2	152591
D7	Insert, Expansion, 1/4-20 Standard	2	158147
D8	Switch, Trigger	1	157934
D9	Plate, Screw, Switch Mounting	1	157876
D10	Cord, AC Power 120V	1	157935
D11	Cover, Wire	1	157880
D12	Screw, # 6-32 x 1 1/4, Socket Flat Head	1	158160
D13	Washer, #6 Flat SAE	5	158231
E	Assembly, Motor	1	n/a
E1	Motor, AC 115 Volt / 15 Amp, 3500 RPM	1	157801-R
E2	Flange, Outer	1	158105

Item	Description	Qty	MK p/n
E3	Flange, Inner	1	158106
E4	Screw, M10 – 1.5 x 20mm Hex Flange	1	158107
E6	Screw, M6-1 x 20mm Hex Head Cap	4	158158
E7	Washer, M6 Split Lock	4	158159
E8	Cap, Motor	1	157877
E9	Cap, Motor Filter	1	157878
E10	Spacer Pin, Cap Screw	2	157879
E11	Filter Element	1	157729
E12	Screw, #6 x 1 ½, Combo Head Pan, Tapping	2	158157
F	Assembly, Table	1	133082
F1	Casting, Table	1	158144
F2	Stop, Rule	1	134387
F3	Screw, ¼-20 x ¾ Hex Head Cap	4	152370
F4	Nut, ¼-20, Hex w/ External Tooth Washer	4	153941
F5	Wheel, Roller	4	133090
F6	Nut, 5/16-18, Hex w/ External Tooth Washer	4	151051
F7	Wood Strip, Table Insert	1	156427
F8	Screw, #8 x 1 Pan Head Phil.	2	151047
F10	Casting, Squaring Arm	1	231276
F11	Screw, 5/16-18 x 1 ½, Thumb	1	151155
F12	Nut, 5/16-18 Square	1	151156
H	Assembly, Accessory Pack	1	n/a
H5	Wrench, Blade Nut	1	158109
H6	Wrench, Shaft	1	158110
H7	Extra Filter Element	1	157729
H8	Blade, MK-BX10, Dry Cutting 14", Segmented	1	157957
H8-A	Blade, MK-BX30, Dry Cutting 14", Segmented Block	1	157944
	Owner's Manual	1	158168

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:

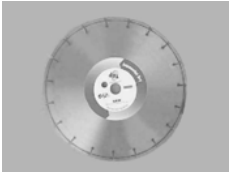
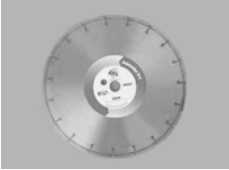
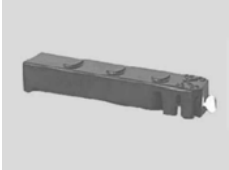

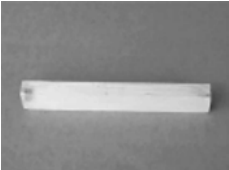
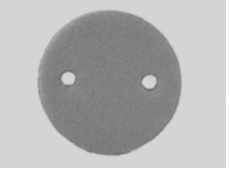


- The requirements of the job
- The machine/tool utilizing the diamond blade
- The preference of the operator

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

ACCESSORIES AND REPLACEMENT PARTS:

ITEM	NUMBER	DESCRIPTION	
1.	157957	MK-BX10, Dry Cutting 14" Segmented Blade	
2.	157944	MK-BX30, Dry Cutting 14" Segmented Block Blade	
3.	231276	Adjustable Cutting Guide*	
4.	133090	Roller Wheel*	
5.	156427	Protective Wooden Strip*	
6.	157729	Motor Air Filter*	
7.	152610	Ground Fault Circuit Interrupter	
8.	157981	BX-3 Stand (Stand contains Owners Manual)	

**Included at time of shipping*

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: There is a \$25.00 minimum order when ordering direct from MK Diamond. A \$6.00 charge will be added to orders having a net billing value under \$50.00. All purchases must be made using VISA, MasterCard or American Express.

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 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. For technical questions, call – 800 474-5594 or 310 257-2845.

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.

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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.

BX-3
OWNER'S MANUAL & OPERATING INSTRUCTION



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1315 Storm Parkway
Torrance, CA 90501

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