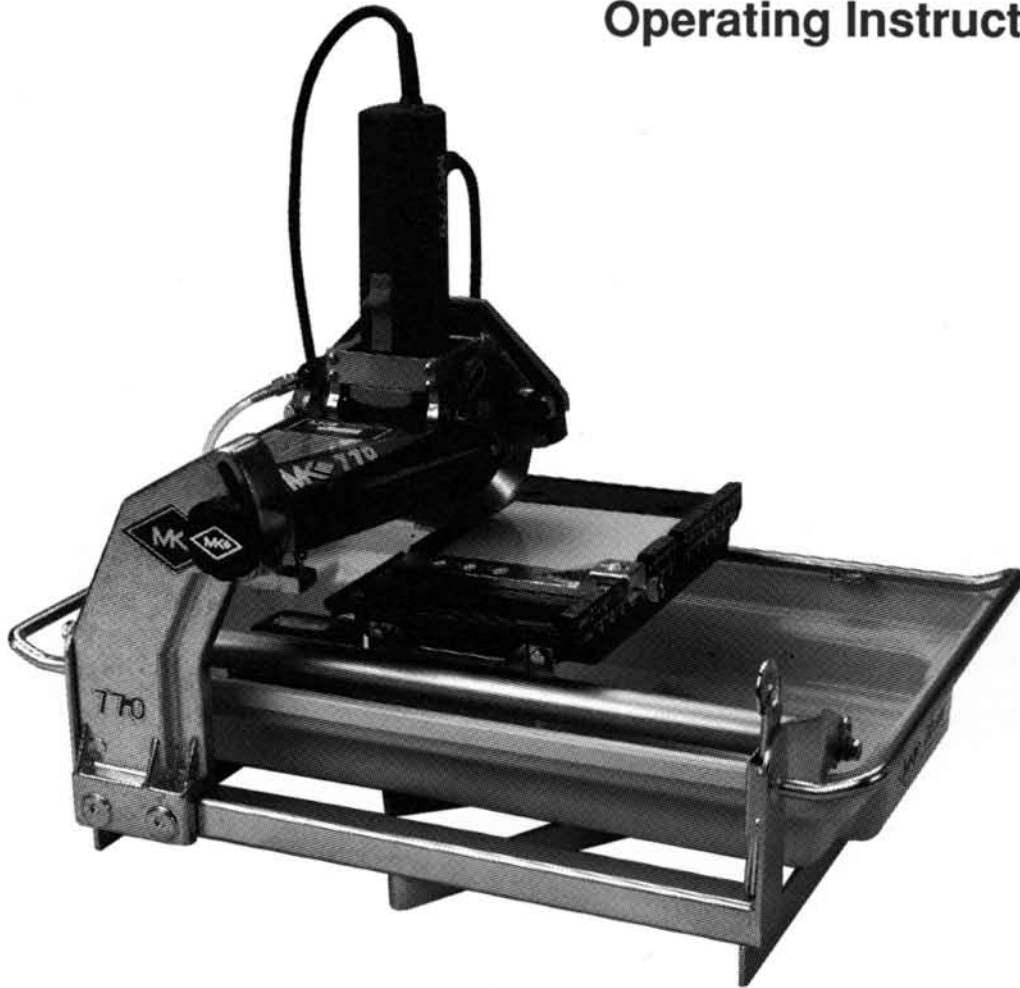





**Model MK 770  
110v Tile Saw  
Owner's Manual  
Parts List and  
Operating Instructions**



**Serial Number \_\_\_\_\_**

You should record the serial number of your saw on this owner's manual and on the warranty card, which must be sent in to be effective. Be sure to include all pertinent information required.

 **Caution: Read safety and general instructions carefully before using saw for the first time.**

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## Symbols/Definitions



WARNING, DANGER, CAUTION



READ OWNER'S MANUAL



WEAR HEARING PROTECTION WHEN OPERATING EQUIPMENT



WEAR EYE PROTECTION WHEN OPERATING EQUIPMENT



WEAR HEAD PROTECTION WHEN OPERATING EQUIPMENT



ALWAYS OPERATE UNIT WITH BLADE GUARD IN PLACE

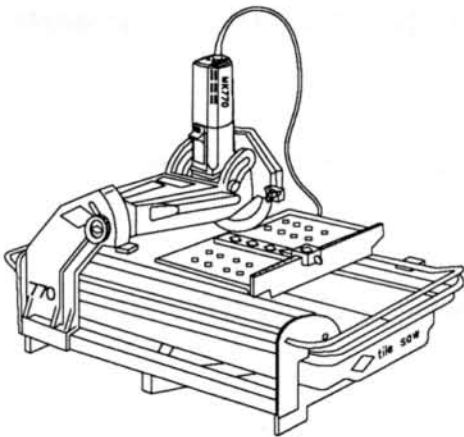
## General Safety Instructions for Tile Saws

- Take time to read and understand fully the owner's manual and instructions and all safety/caution labels attached to the saw.
- All saws are equipped with approved 3-pronged electrical cord and plug. Do not remove or use in a 2-prong receptacle.
- Keep blade guard in place at all times.
- Keep work area clean and safe.
- Be sure you have the right saw and blade for the work to be done. Forcing a tool to do a job for which it was not designed invites hazardous results and failure.
- Use safety goggles to comply with ANSI Z87.1 as well as wear dust mask and ear plugs for protection.
- Maintain all tools with care for the safest and best performance.
- Always disconnect tool before cleaning, changing blade or servicing.
- Always make sure switch is "OFF" before plugging unit into electrical power.
- Never leave saw running unattended. Turn power off.
- Never stand on saw or use saw on an unsupported surface to avoid accidents.

## Warranty Information


If, within one (1) year from the date of purchase, this MK Diamond saw fails due to a defect in material or workmanship, MK will repair it, free of charge, by returning the unit to the dealer where it was purchased. This warranty DOES NOT cover normal wear or damage resulting from operator abuse. In no event shall MK Diamond Products, Inc. be liable for consequential damages arising out of the failure of any product if operated improperly. Selected components such as motors/engines are excluded from this warranty and are subject to the manufacturer's warranty. Each manufacturer carries it's own warranty conditions which are listed on the literature accompanying the motor/engine at the time of purchase. MK Diamond Products may act as a warranty station for the motors/engine repairs based on individual agreement with the manufacturer. This warranty is in lieu of all other warranties expressed or implied.

## Saw Features



- Fully adjustable 45° miter system
- Very portable at 50 lbs.
- Durable high torque 1/2 h.p. motor
- Cuts tile and marble to 12" x 12"
- Blade guard is hinged for safe and easy blade changes
- Sealed heavy-duty blade shaft bearings are permanently lubricated.
- Linear slide bar and cover offer precision and maintenance free operation

**SAFETY IS A COMBINATION OF OPERATOR COMMON SENSE AND ALERTNESS AT ALL TIMES WHEN THE SAW IS BEING USED.**

 **WARNING:** For your own safety and protection, do not attempt to operate saw until it is completely assembled and installed according to the instructions... And until you read and understand the general safety instructions.

- Be sure the saw is secure and stable before cutting
- Protect your Eyes, Hands, Face, Ears and Body with the proper clothing and safety equipment.
- Do not attempt to cut pieces too small to hold by hand outside the blade guard.
- Avoid awkward hand positions where a sudden slip could cause a hand to move into the blade.
- When cutting a large piece of material, make sure it is fully supported at cutting height.
- Hold workpiece firmly against cutting table.
- Only feed the material fast enough for blade to cut. **DO NOT FORCE.**
- Never leave saw running unattended. **Turn power off.**
- Always disconnect motor electrical cord from power source before cleaning, changing blade or any servicing.
- Should any part of this saw be missing or damaged or any electrical component fail to perform properly, shut off power and unplug from power source. Replace damaged, missing, and/or failed part before resuming operation.

**THINK SAFETY.** The operation of any power tool can result in foreign objects being thrown into the eyes causing severe damage. Use safety goggles to comply with ANSI Z87.1



**FORESIGHT IS BETTER THAN NO SIGHT**

- Always keep alert. Do not allow familiarity (gained from frequent use) to cause a careless mistake. Always remember that a careless fraction of a second is sufficient to inflict severe injury.

## Unpacking, Assembly and Preparation

Carefully open carton. Remove saw and separate all parts from the packing material. Check each item with illustration making certain all items are accounted for and in good condition before discarding any packing material. If there are any missing or damaged parts, call our toll free number 1-(800) 421-5830 for instructions before proceeding with the assembly.

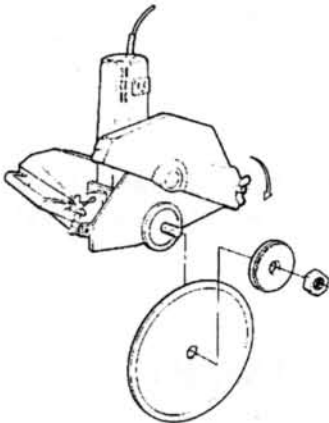
Contents of carton:	saw	owner's manual
	blade	wrenches
	water pump	drain plug
	rip guide	warranty card
	plastic pan	



**WARNING:** For your own safety, never connect plug to power source outlet until all assembly steps are complete.

- Read and understand the safety and operational instructions. Lift the saw by the frame and place onto level work surface or optional stand
- See stand assembly instructions.
- Familiarize yourself with the controls and features of this saw shown in the illustration on page 2. (Descriptions and illustrations are as accurate as possible at the time of publication. Illustrations may include optional equipment or accessories and may not show all models covered by this literature.)

## Installing the Blade and Adjusting the Cutting Head

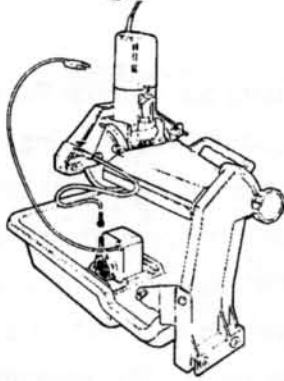


Assemble cutting head to frame. Secure cutting head to frame with adjustment knob. Attach blade guard to cutting head if you haven't already done so. Raise blade guard to its highest position and tighten wind nut. Remove the blade shaft nut and the outer flange. Place blade onto the shaft making sure the rotation arrow faces out and points down (direction of rotation). Reinstall the outer flange and the blade shaft nut. Use motor shaft wrench to hold the shaft when tightening the blade nut. Be careful not over-tighten! Lower blade guard and retighten wing nut and blade guard davies knob. Loosen adjustment knob and lower the cutting head until the blade is  $\frac{1}{4}$ " below the surface of the table. Ensure that the blade tracks in the center of the conveyor cart. The cart should move freely from front to back. Tighten the adjustment knob to hold the cutting head in place. You are now ready to cut. If the blade does not track in the center of the conveyor cart or the conveyor cart does not move freely then stop - call MK Customer Service.



**CAUTION:** Setting the blade too high will cause it to grab and damage the tile and possibly the saw. Setting the blade too low will cause damage to the conveyor cart.

## Installing Water Pump



Unpack and inspect the pump from its carton to insure that no damage has occurred in shipping. Attach the nipple to the pump outlet and to the plastic tubing. Place the pump in the water pan cradle. The water pump has sealed bearings and is thermally protected. Water level should be above pump intake level to ensure proper operation. Cold weather and low voltage may cause pump not to function properly. Be sure that pump is clear of sediment before operation.



**NOTE:** Disconnect and remove water pump when cutting dry.

## Safety Guidelines for Pump

1. Do not use to pump flammable or explosive fluids such as gasoline, fuel oil, kerosene, etc. Do not use in explosive atmospheres. Pump should only be used with liquids compatible with pump component materials.
2. Do not handle pump with wet hands or when standing on a wet or damp surface, or in water.
3. Do not pull the pump out of the water by the power cord when the pump is operating or connected to power source.
4. This pump is supplied with a grounding conductor and/or grounding type attachment plug. To reduce the risk of electric shock, be certain that it is connected to a properly grounded grounding type receptacle.
5. The national electric code requires a ground fault circuit interrupter (GFCI) be installed in the branch circuit supplying fountain equipment, pools, etc.
6. In any installation where property damage and/or personal injury might result from an inoperative or leaking pump due to power outages, discharge line blockage, or any other reason, a backup system(s) and/or alarm should be used.
7. Support pump and piping when assembling and when installed. Failure to do so may cause piping to break, pump to fail, motor bearing failures, etc.

## Motor Specifications and Electrical Requirements

- |                              |                |
|------------------------------|----------------|
| • Horsepower.....½, saw duty | • Hertz.....60 |
| • Volts.....115v             | • Phase.....1  |
| • Amperes.....5.3            | • Class.....F  |
| • R.P.M.....5500             | UL Approved    |

## Cord Requirements

Before connecting saw to power supply, check that voltage and phase on motor are the same as power supply. The electrical circuit should be 110 volts AC, 60 Hertz, 20 amps; protected by 20 amp breaker. (If a generator is necessary, use 5000 KW minimum). **Power supply must be grounded using three conductor extension cords with three prong ground plugs and receptacles.** Using the following as a guide:

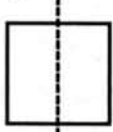
WIRE GAUGE:	#14	#12	#10
110 VOLTS:	25'	50'	75'

Use only UL listed cords and connect saw as close to power source as possible.

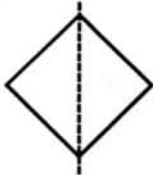


# Operations

## Rip cutting



square cut

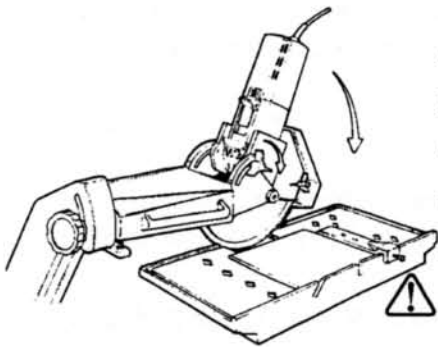


diagonal cut


Rip cutting is the term used to describe cutting the material flat on the conveyor cart, either on the square or the diagonal. When cutting the material on square, position the material against the conveyor cart back stop and hold firmly in place. Use the rip guide for positioning the material for exact cutting dimensions. When cutting diagonally, position the material using the conveyor cart back stop and the dual 45° fixture. For cutting materials at angles other than 45°, use the 0 - 90° protractor to align the material to the desired angle.

## 45° Cutting

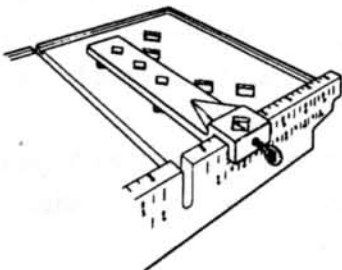
### Built-In Miter Position



If you desire to cut using the built-in 45° miter feature then you must first raise the cutting head to the full up position before rotating the motor mount. After the motor mount is rotated and secured to the 45° degree position, lower the cutting head until it rests on the adjustment screw located on the tower. Tighten adjustment knob. Ensure that conveyor cart moves freely from front to back

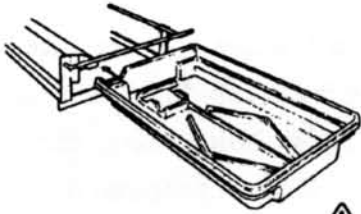
 Do not attempt to adjust the adjustment screw located on the tower as this will effect the factory setting and will effect the built-in 45° feature

### Table Markings Explanation




The markings on the conveyor cart back stop are used for precision cutting to exact dimensions. The scale on the top of the back stop is used for setting the rip guide alignment indicator to the desired dimension. The scale on the front face of the back stop is used to indicate the *actual* position of the material being cut. This offset takes into account the width between the rip guide indicator and the rip guide edge surface.

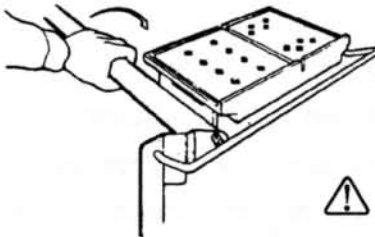
## Removal of Pan




The water pan is removed by sliding the pan straight out through the front of the saw frame. When reinstalling the pan, make sure that the lip of the pan is aligned with the notches in the frame brackets and the bottom of the pan rests securely on the frame cross bars.

 **NOTE:** Clean the pan after every use with soap and water.

## Securing table




The conveyor cart may be secured into position for transportation and storage. Rotate the linear bearing guide bar cover (Item 34) in a clockwise direction until the conveyor cart is tight. To unsecure, rotate the conveyor table in a counter clockwise direction until the cart moves freely.


 **NOTE:** This is not a locking device. The conveyor cart may move during transportation.


## Maintenance

**Failure to maintain saw in accordance with the manufacturer's recommendations may void the warranty.**

Cleaning the saw after every use will ensure long life and trouble-free cutting. Raise conveyor cart to clean linear bearing and guide bar. Lubricate guide periodically with a light machine oil. Wipe off the cutting head and other surfaces.

 **WARNING:** For your safety, turn switch off and remove plug from power source outlet before maintaining or cleaning your saw. If the power cord is damaged in any way from wear or cuts, replace it immediately.

 **DO NOT** service the motor's internal parts yourself. Call MK Diamond's customer service department at 1-800-421-5830 for help in solving any problems.

 **CAUTION:** When cleaning equipment, **DO NOT** get motor wet.

Electrical shock could occur. Excessive moisture can also cause severe damage to internal parts.



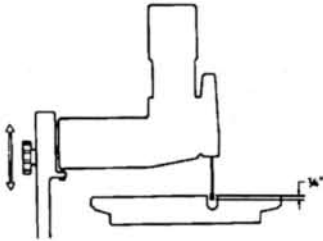
# Adjustments

## Brush Removal and Replacement



After extended use the need may arise for the brushes to be replaced. Using proper size flat head screw driver remove brush cap. Brush is spring loaded and should extend beyond the brush holder after cap is removed. Gently pull brush free from motor cap. If brush hangs up during removal, **DO NOT FORCE** the brush from the holder. Replace brush with only MK Diamond authorized brushes. Replace cap and secure. Do not overtighten.

## Depth of Cut



When cutting through material, the blade should penetrate 1/4" (6.35mm) below the surface of the conveyor cart . This adjustment is made by loosening the adjustment knob and raising or lowering the cutting head. Measure the distance between the conveyor cart top surface and the bottom of the blade.

**⚠ CAUTION:** Setting the blade too low may cause damage to the conveyor cart.

**⚠ CAUTION:** Setting the blade too high may cause the blade to bind in the material being cut.

Adjustments to the blade are limited to raising and lowering the cutting head to achieve the proper cutting depth.

**⚠ DO NOT** attempt to square or level the conveyor cart as this is set at the factory.

## Optional Stand Safety Instructions



When setting the saw on the stand, be sure the saw frame seats firmly in the stand brackets. The “point” of the V-strut should fit over the small V-shaped stand bracket, and the strut opposite the point should fit over the large V-shaped stand bracket.

**CAUTION:** Always set the stand on a firm, level surface to prevent tipping or sliding.

## Optional Accessories



**Rip Guide** - used to align the material being cut to the measurements on the conveyor cart.



**Dual 45° Flat Angle Guide** - used to align the material for flat diagonal 45° cutting.



**90° Protractor** - used to align the material for cutting any desired angle.

# Do's/Don'ts

Inspect all blades daily for any damage before mounting.

## Dry Cutting Blades

### DO's

- Follow manufacturer's blade recommendation for material being cut. Check for suitability of cutting dry.
- Inspect diamond blade for damage before mounting on saw. Check arbor shaft and flanges for damage or uneven wear.
- Be sure blade is mounted on correct diameter shaft with arrow in the proper direction of rotation and blade shaft nut is securely tightened with wrench.
- Inspect blade periodically during use for fatigue cracks and segment damage.
- Wear proper safety equipment and observe safe operating procedures.

### DON'Ts

- Never operate any saw without safety guards in place.
- Do not exceed maximum operating speed established for blade diameter.
- Do not force blade into material: allow blade to cut at it's own speed.
- Do not make long continuous cuts with dry cutting blades: allow blade to cool by turning in air every few minutes.
- Do not cut or grind with side of blade or cut a curve or radius.

Always follow all the manufacturer's safety recommendations as well as complying with the ANSI B7.1, B7.5, OSHA and Safety Guidelines furnished with each product. Using blades and machines in a **SAFE** manner will assure the long life and cutting quality of your MK Diamond blades.

## Blade Cutting Speeds

Diameter	Recommended R.P.M.s*	Maximum R.P.M.s
7"	5.184	8730

\* Based on 9,500 SFPM optimum performance range + or - 10%.

## Maximum Blade Cutting Depth

7"	2-3/4" depth
----	--------------

Note: Cutting depths are approximate and will vary with different blades and saws

## Wet Cutting Blades

### DO's

- Match blade specification with material to be cut.
- Inspect blade for damage before mounting on saw: check arbor shaft and flanges for damage and uneven wear.
- Be sure blade is mounted on correct diameter shaft and the blade shaft nut is securely tightened with wrench.
- Check for continuous flow of water to both sides of the blade.
- Follow manufacturer's recommended pulley sizes and operating speeds for specific diameter blades.

### DON'Ts

- Do not operate any machine without blade guard in place.
- Do not cut dry with blades recommended for wet cutting.
- Do not exceed maximum safe operating speed.
- Do not operate saw with blade diameter larger than machine's capacity.

## Trouble Shooting

**If motor won't stay on** - check for correct extension cord size, check voltage and circuit breaker from power source. Use 20 amp power.

**If blade won't cut** - check for worn out diamond edge, check that blade is rotating in the same direction as the rotation arrows, check that the blade is the correct specification for the material being cut.

**If conveyor cart won't move smoothly** - check that the guide bar cover is not secured, check that the guide bar is clean and free of dirt. Lubricate guide bar periodically with light machine oil per maintenance instructions on page 7.

**If water won't flow evenly to both sides of the blade** - check that the water line is clear of dirt, check that the water jets in the blade guard are clear, check that the pump filter is not clogged.

## Safety Guidelines for Pump

1. Do not use to pump flammable or explosive fluids such as gasoline, fuel oil, kerosene, etc. Do not use in explosive atmospheres. Pump should only be used with liquids compatible with pump component materials.
2. Do not handle pump with wet hands or when standing on a wet or damp surface, or in water.
3. Do not pull the pump out of the water by the power cord when the pump is operating or connected to power source.
4. This pump is supplied with a grounding conductor and/or grounding type attachment plug. To reduce the risk of electric shock, be certain that it is connected to a properly grounded grounding type receptacle.
5. Support pump and piping when assembling and when installed. Failure to do so may cause piping to break, pump to fail, motor bearing failures, etc.

## Electrical Connections

1. Check the pump label for proper voltage required. Do not connect to voltage other than that shown.
2. If pump is supplied with a 3-prong electrical plug, the third plug is to ground the pump to prevent possible electrical shock hazard. **DO NOT REMOVE** the third plug from the cord. If the plug is cut or the cord shortened, then this action will void the warranty.
3. If the cord is equipped with stripped lead wires, such as on 230v models, be sure that the lead wires are connected to a power source correctly. The green/yellow wire is the ground, the other two are live.

## Operation

1. The PE-1 model pumps must be operated with the volute intake below the liquid level.
2. The pumps can be placed in any position.
3. The weight of the pumps must be supported adequately. **DO NOT** support the pumps by the discharge connection alone. Pumps may be supported by using the two mounting holes in the back of the pump. The holes are designed for #8 self-tapping screws. Hole Depth is .37 – **DO NOT** exceed the hole depth.
4. Do not attempt to restrict the intake side of these pumps. Restricting the intake may cause damage to the seal and may starve the pump. If you require deduced flow rates, then place a valve on the discharge side of the pump or if flexible vinyl tubing is used, a clamp can be used on the tubing to restrict the flow.
5. Do not let the unit operate dry. It is designed to be cooled by pumping fluid. You may damage the seal and the motor may fail if the pump is allowed to run dry.
6. If the unit is going to be idle for a period of time, follow the cleaning instructions outlined in the next section. Do not let the unit freeze in the wintertime. This may cause cracking or distortion that may destroy the unit.

## Service Instructions

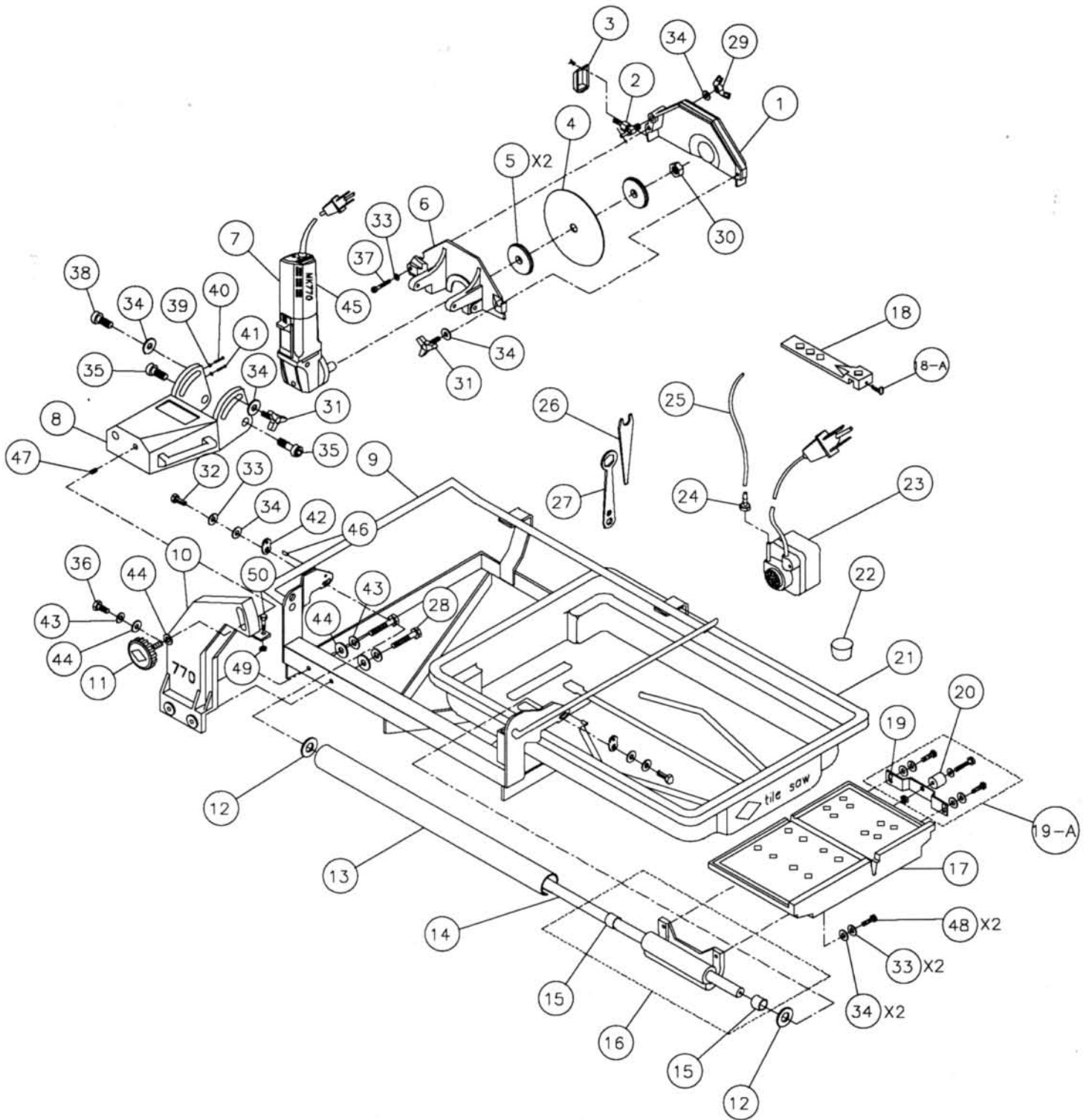
1. This unit is permanently lubricated. Oiling is not required.
2. First remove the intake screen from the pump. Screen is snapped on and can be removed by pulling. The remove the 3 screws which attach the volute.
3. Lightly clean any corrosion or debris which may clog the impeller. Use a brush and penetrating oil and lightly scrape to remove encrusted material.
4. Turn the impeller by hand to make sure it turns freely. Set pump down so the pump and impeller are not touching anything. Plug the unit into GFCI circuit for 10 seconds to see if the impeller turns; a) If it is rotating and GFCI did not trip, un-plug unit and install parts in reverse order in which they were removed. b) If it does not rotate, if pump is tripping circuit breaker, or not operating properly after cleaning, return to Little Giant or its authorized service center. **DO NOT** attempt repairs yourself.
5. Be certain power cord is in good condition and contains no nicks or cuts.

# Parts Listing

ITEM	DESCRIPTION	PART NO.
1	Blade Guard .....	151731
2	Water Control Valve .....	152785
3	Splash Guard .....	134841
4	Wet Cutting Blade - MK200 - 7" (Tile).....	139395
	General Purpose Blade - MK925 7" (Masonry).....	150669
5	Flanges (2 required) .....	135830
6	Motor Mount .....	153904
7	Motor, 1/2 HP 115V AC 5500 RPM 60 Hz.....	153804
8	Cutting Head .....	151733
9	Frame.....	153322
10	Rear Post .....	153516
11	Height Adjustment Knob .....	153594
12	Spacer, Linear Bearing Support (2 required).....	151755
13	Guide Bar Cover .....	151740
14	Guide Bar .....	151739
15	Multilube Bearing (2 required) .....	151781
16	Linear Bearing Mount Assembly .....	151737
17	Conveyor Cart .....	151738
18	Adjustable Rip Guide.....	134551
18-a	Thumb Screw 1/4 - 20 x 1 .....	150991
19	Roller Wheel Bracket.....	151800
19-a	Roller Wheel Bracket Assembly .....	151756
20	Roller Wheel .....	151799
21	Plastic Water Pan .....	151736
22	Drain Plug .....	133025-MK
23	Water Pump.....	151271
24	Water Pump Hose Adapter.....	128397
25	Water Supply Hose (2 ft. required) .....	132951
26	Motor Shaft Wrench.....	153450
27	Blade Shaft Wrench .....	134684
28	Hexhead Bolt 3/8-16 x 2 (2required) .....	153485
29	Wing Nut, 5/16.....	151806
30	Blade Shaft Nut 5/8 - 16.....	135848
31	Davies Knobs (2 required) .....	151681
32	Guide Bar Hexhead Bolt 5/16 - 18 x 1 (2 required).....	151743
33	Lock Washer 5/16 (5 required) .....	151747
34	Flat Washer 5/16 S.A.E. (8 required).....	151754
35	Shoulder Bolts, Socket Head 1/2 x 1/2 (2 required) .....	151753
36	Hexhead Bolt 3/8 - 16 x 2 .....	153485
37	Hexhead Bolt 3/8 - 18 x 2-1/2.....	151748
38	Shoulder Bolt, Socket Head 5/16 x 5/8.....	152137
39	Hex Nut 10 - 24 (2 required).....	151749
40	Pan Head Slotted Screw 10 - 24 x 3/4.....	151750
41	Pan Head Slotted Screw 10 - 24 x 1.....	151751
42	Adjustment Plate (2 required) .....	151758
43	Lock Washer 3/8 (3 required) .....	150925
44	Flat Washer 3/8 S.A.E. (3 required).....	150923
45	Water Pump Receptacle .....	151775
46	Roll Pin (2 required).....	151783
47	Helicoil 3/8 - 16 .....	151880
48	Hexhead Bolt 5/16 - 18 x 1 (2 required) .....	151743
49	Nut 1/4 - 20 .....	151893
50	Hexhead Bolt1/4 -20 x 1 .....	152674

NOTE\* Descriptions, part numbers and illustrations are as accurate as possible at the time of publication. Illustrations may include optional equipment or accessories and may not show all models covered by this literature.

# Exploded View



## AVAILABLE ACCESSORIES (Not Shown)

Dual 45° Flat Angle Guide .....	134577-MK
90° Protractor .....	134569-MK
Water Containment Hool .....	151924
45° Bullnose Miter Plate, Small .....	134585



## **HOW TO ORDER REPAIR PARTS**

Always have the following information ready before calling:

**Serial number of your saw**

**Model number of saw**

**Where purchased and when**

**Part description**

**Part number**

All parts listed may be ordered from your local distributor or from MK Diamond. If the part is not stocked locally, call our toll free number listed below and ask for our customer service department. There is a \$ 25.00 minimum order.

## **Returned Merchandise Policy**

Should you need to return any product you have purchased from MK Diamond, please observe the following:

Our customer service department should be contacted for approval to return merchandise. Merchandise will not be accepted without a Returned Goods Authorization number. All returned merchandise must be shipped prepaid to destination.

All returned merchandise must have been purchased within the previous 12 months and be in resalable condition. A restocking charge of 15% will be billed.



MK DIAMOND PRODUCTS, INC.

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1 (800) 421-5830 FAX 1 (213) 539-5158