

PARTS LIST of the Mod.4100 MARBLE CUTTER							
No.	Code	Name	Remark	No.	Code	Name	Remark
1	113002	Table		30	211021	Bearing	608
2	238001	Screw		31	114001	Washer	
3	319025	Screw		32	333015	O ring	19×1.5
4	231005	Screw	M4×15	33	221072	Screw	ST5×65
5	273006	Pin		34	441040	Stator	
6	162079A	Gear box		35	321005	Retainer	
7	211003	Bearing	606-2Z	36	314026A	Handle cover	
8	242004	Retainer		37	335002	Small cap	
9	136035	Big gear		38	335003	Big cap	
10	251005	Retainer		39	445001B	Switch	
11	243005	Washer		40	313002A	Motor housing	
12	143014	Bearing sleeve		42	222002	Screw	ST14×16
13	211067	Bearing	6201-2Z	43	231010	Screw	M5×25
14	276002	Key	4×13	44	235001	Screw	M5×8
15	133031	Spindle		45	432001A	Brush holder	
16	336002	Oil seal		46	431007B	Carbon brush	
17	342002	Paper washer		47	433002A	Brush cap	
18	161002A	Front cover		48	411028	Power cord	
19	182016	Outer flange		49	332006	Cord sleeve	
20	234053	Screw		50	318006	Cord clamp	
21	182010	Inner flange		51	443008	Capacitor	
22	234003	Screw	M6×18	52	437001	Connection	
23	333002	O ring		53	623033	Socket Wrench	
24	252001	Retainer		54	623021	Whipping Wrench	
25	136036	Pinion					
26	211023	Bearing	629-2RS				
27	276001	Key	3×10				
28	442041	Rotor					
29	319024	Retainer					

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Original instruction

GENERAL SAFETY INSTRUCTIONS

⚠ **WARNING! Read all instructions.** Failure to follow all instructions listed below may result in electric shock, fire and /or serious injury. The term "power tool" in all of the warnings listed below refers to your mains operated power tool.

SAVE THESE INSTRUCTIONS.

1) **WORK AREA**

a) **Keep work area clean and well lit.** Cluttered and dark areas invite accidents.

b) **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Power tools create sparks which may ignite the dust or fumes.

c) **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

2) **ELECTRICAL SAFETY**

a) **Power tool plugs must match the outlet. Never modify the plugs in any way. Do not use any adapter plugs with earthed grounded power tools.** Unmodified plugs and matching outlets will reduce risk of electric shock.

b) **Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.

c) **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.

d) **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool.** Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool.

e) **Keep cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.

f) **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.

g) **If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply.** Use of an RCD reduces the risk of electric shock.

3) **PERSONAL SAFETY**

a) **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating power tools may result in serious personal injury.

b) **Use personal protective equipment. Always wear eye protection.** protective equipment such as dust mask, no-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.

c) **Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energising power tools that have the switch on invites accidents.

d) **Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.

e) **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.

f) **Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts.** Loose clothes, jeweler or long hair can be caught in moving parts.

g) **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of these devices can reduce dust related hazards.

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4) **POWER TOOL USE AND CARE**

a) **Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it was designed.

b) **Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.

c) **Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.

d) **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.

e) **Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.

f) **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.

g) **Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.

h) **Save all warnings and instructions for future reference.**

i) **Recommendation:** The tool always be supplied via residual current device with a rated residual currentof 30 mA or less.

5) **SERVICE**

Have your power tool serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the power tool is maintained.

IMPORTANT: Hold power tool by insulated gripping surfaces, when performing an operation where the cutting accessory may contact hidden wiring or its own cord. Cutting accessory contacting a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.

Dear Customer,

Thank you for buying a KEN power tool. Should you have any questions, vagueness or second thoughts about our products, we recommend you to contact our experts in Sales and Service Departments, who will advise you and help you find the right answers to the set questions. Please contact our local distributors or dealers directly.

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■ TECHNICAL DATA			
Type	Z1E-SH03-110 4100		
Size of Cutting Blade	Φ110×Φ20mm (Outer Diameter X Inner Diameter)		
Current Source	AC	220-240V	50Hz
Rated Input Power	1200W		
Loading Current	5.7A		
Idling Rotational Speed	12000/min		
Maximum Cutting Depth	34mm		
Weight	2.6kg		
Standard Spare Parts	Socket Wrench	1PC	
	Whipping Wrench	1PC	
	Carbon Brush	2PCS	
	Operating Handbook	1PC	

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■ **PRACTICAL TIPS**

- ◆ Make the cutting wheel to attain suitable water current, but can't touch the water pipe.
- ◆ The maximum cutting angle of the tool can come to 45°.
- ◆ Before connecting the tool with the electric source, please confirm the button of the switch is in loose condition, the trigger of the switch can reset freely.

■ **MAINTENANCE AND CARE**

- Unplug the tool from the socket before performing any works on the tool!
- Tool requires no special maintenance, but after some time you must control the parts that are submitted to wear-and-tear under normal operating conditions. This includes the control and replacement of carbon brushes and grease in reducing gear housing. Take the tool to an authorized service centre.
- Keep the tool and supply cord clean. Keep ventilation slots clean and open. Wipe the surface of the tool with a soft cloth!
- It is not allowed to use household cleaning agents that contain petrol, trichloroethylene, ammonia and chlorides. These substances corrode and damage plastic parts of the tool.
- Excessive sparking generally indicates the presence of dirt in the motor or abnormal wear on the carbons.
- In case of electric or mechanical failure, send the tool to a KEN authorized service centre for repair.

■ **SERVICING AND REPAIRS**

If servicing is required, contact one of our listed service centers. It is not allowed and dangerous to perform any individual work on the tool.

- ◆ Have the tool repaired by authorized persons.
- ◆ Any repairs of the tool in unauthorized service centers is performed at own responsibility.
- ◆ The owner of the tool is responsible for all works on the tool that were not performed in authorized service center, and therefore he loses the claim for guarantee.

■ **WASTE DISPOSAL AND ENVIRONMENT PROTECTION**

The machine, accessories and packing should be sorted for environmental-friendly recycling. Only for EC countries:

- ◆ **Do not dispose of power tools into household waste!**

According the European Guideline 2002/96/EC for Waste Electrical and Electronic Equipment and its implementation into national right, power tools that are no longer usable must be collected separately and disposed of in an environmentally correct manner.

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SAFETY

The safety notes are as follow when use the marble cutter, please be sure to strictly follow, or may damage the tools or physical injury.

- Please check there's no any fissure or damage of the cutting wheel, do not use a cutting wheel for damaged, deformation or chips and cracks.
- Do not use the wheel and the marble cutting wheel which not meet the instructions of performance requirements.
- Do use the inner and out flange and wrench equipped with the tool.
- As the additional protective measures of avoiding electric shock, please wear rubber gloves and rubber boots in operation.
- Please check and confirm that the adjusting rotating button, the angle adjusting nut and the hexagonal bolt that tightens the cutting wheel has been screwed tightly before cutting work.
- Do not run when in the state of removal the fixed guard.
- When start the tool, should check and ensure that the parts and cutting wheel or other items without any contact, do not start the cut off machine when the cutting wheel contact with the parts.
- Don't touch the rotating parts with hands.
- Please hold the tool tightly, and release the switch on time when appearing the cutting wheel decelerates suddenly or the processing object is clamped.
- It's forbidden to use the bench vice or clamp to counter clamp the tool and do cutting work on it.
- After the cut off machine power off, do not put down the cut off machine before the cutting wheel stop completely, and not allowed any outside force to stop the cutting wheel.
- Before replace the cutting wheel, adjust the cutting depth or repair the cut off machine, should unplug the power plug, the cutting wheel in a static state.
- Please use the twofold insulation electric cable which size is the same as the size of the tool when using the extended cable.

CAUTION: Hold tool by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring or its own cord. Contact with a "live" wire will make exposed metal parts of the tool "live" and shock the operator.

1) **Keep hands away from cutting area and rotating parts.** Never reach underneath the material for any reason.

2) **Keep handles dry, clean, and free from oil and grease.** This will enable better control of the tool.

3) **For additional protection against electric shock, be sure to wear rubber gloves and rubber boots when operating, and establishing leak circuit breaker.**

4) **Check the wheel carefully for cracks or damage before operation.** Replace cracked or damaged wheel immediately.

5) **Hold tool firmly.**

6) **Never attempt to cut with tool held upside down in a vice.** This can lead to serious accidents, and is extremely dangerous.

7) **Before setting the tool down after completing a cut, be sure that the wheel has come to a complete stop.** Do not enforce to stop the wheel by any outside force.

8) **Make sure the wheel is not in contact with the work piece before switching on.** Wait until wheel attains full speed before commencing cutting.

9) **No grinding disc is allowed to use on this tool.**

10) **Never use diamond wheel that its specifications are not specified in this manual.**

11) **Never use this tool without guard properly installed.**

12) **Always turn off and unplug the tool, and be sure the tool wheel has come to a complete stop** when changing wheel, adjusting the cutting depth and cutting angle or before repairing the tool.

13) **The rated speed of the accessory must be at least equal to the maximum speed marked on the power tool.** Accessories running faster than their rated speed can break and fly apart.

■ **OPERATION**

◆ **Assemble or Disassemble the Cutting Wheel**

Use the whipping wrench to fix the outer flange, rotate the socket wrench clockwise to release the hexagonal bolt, disassemble the bolt, outer flange, and then the cutting wheel can be disassembled. When assembling the cutting wheel, make the marked direction on the cutting wheel surface and the arrow direction on the tool to conform each other; it's OK to assemble it according to the above-said order oppositely. Please pay attention to screw the hexagonal bolt tightly. (Picture One, Picture Two)

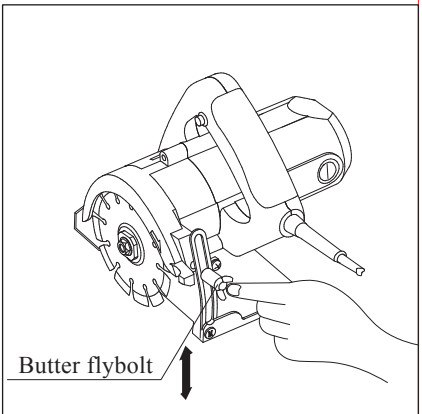
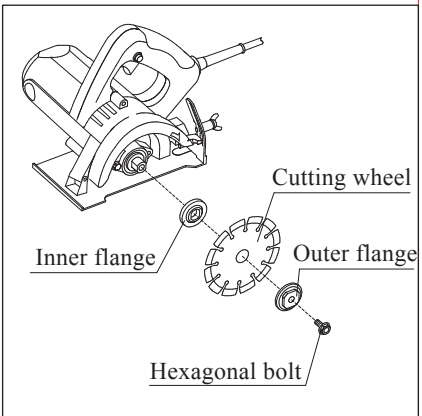
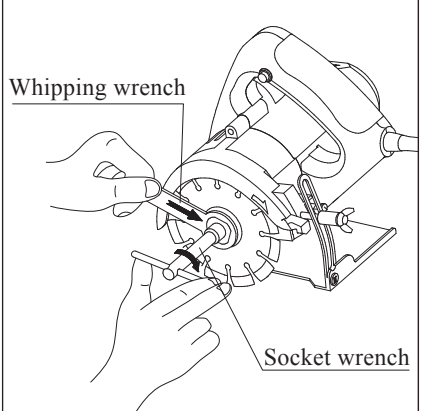
◆ **Adjust Cutting Depth**

Release the butterfly bolt on the scale, and then pull the base plate to move, adjust it to the demanding depth and then screw the butterfly bolt tightly. (Picture Three)

picture 1

picture 2

picture 3



◆ **Effective and Safe Cutting Methods**

Hold the tool tightly, put the base plate on the object which is going to be cut and don't make it have any touch with the cutting wheel, then start up the tool and wait it to attain the maximum rotating speed. Move the tool along the surface of the project forward simply, please keep its level and go ahead slowly until the cutting work finished. Please keep the cutting line to be straight, and the speed of going ahead is in uniform. After the cutting work, please make the tool idle running one to two minutes to get rid of the dust of the inner tool. (Picture Four)

◆ **Switch Operation**

Press the trigger, the tool switches on; release the trigger completely, the tool will be under switching off condition. If the users need to lock the switch, please press the locking button at the time of pressing the trigger, the tool will run continuously; press the trigger again and release it completely will make the tool under switch off condition. (Picture Five)

◆ **Replace the Electric Brush**

The tool has set the electric brush limited position equipment especially, please replace the electric brush if there's big sparks or the rotation stops during the running. Please use screwdriver to screw the lid of the electric brush and take out the wearing electric brush and install the new ones, and please use hands to try and confirm it can slide freely in the slot, and then install and screw the lid of the electric brush. Please replace two brushes at the same time, and use the specified "KEN" brand electric brush. (Picture Six)

picture 4

picture 5

picture 6

KEN

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Marble Cutter

KEN

4100 Z1E-SH03-110

original instructions

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