

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

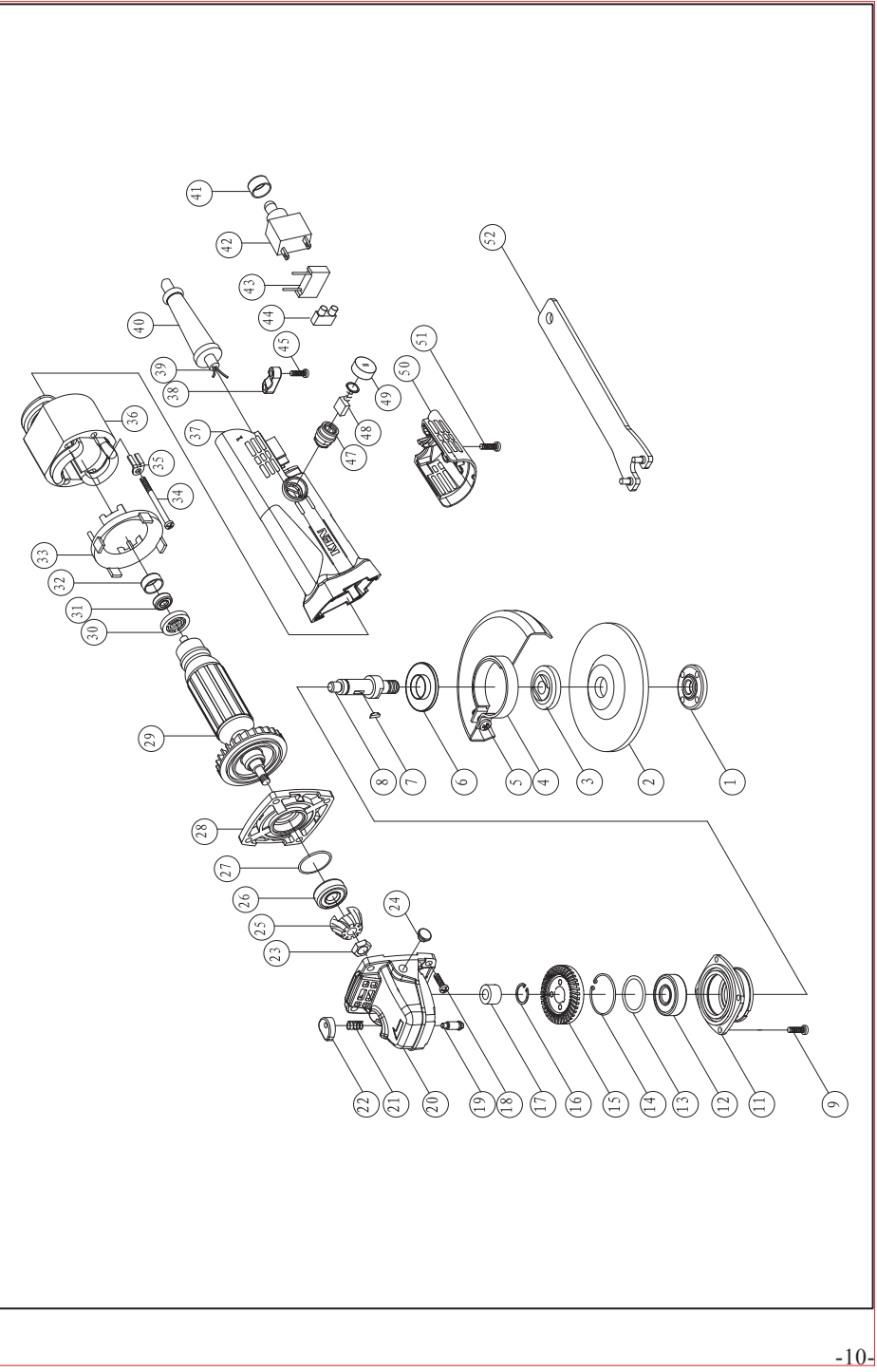
### 3) PERSONAL SAFETY

- 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 safety equipment. Always wear eye protection. Safety equipment such as dust mask, no-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
- c) Avoid accidental starting. The power tool is in the off position before plugging in. Carrying power tools with your finger on the switch or plugging in 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, jewelry 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.

### 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 before making any adjustment, changing accessories, or storing power tools. Such preventive safety measures reduce the risk of starting the power tool accidentally.

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## PARTS LIST of the Mod.9913B ANGLE GRINDER

No.	Code	Name	Remark	No.	Code	Name	Remark
1	139030	Outer flange		27	333002	O ring	
2	611002	Grinding wheel		28	163004B	Medial plate	
3	139031	Inner flange		29	442030	Armature	
4	112009	Wheel guard		30	319014	Plastic retainer	
5	231027	Screw	M5×16	31	211005	Bearing	606-S
6	115003	Dust protector		32	331006	Bearing sleeve	
7	276001	Key	3×10	33	321041	Air deflector	
8	133027	Spindle		34	221021	Screw	ST4×70
9	231156	Screw	M4×14	35	110035	Field hold plate	
11	161007A	Alu. flange		36	441053	Field	
12	211044	Bearing	6201-2Z	37	313037	Motor housing	
13	243005	Washer		38	318009	Cord clamp	
14	251005	Retainer		39	411006	Power cord	
15	137007	Big gear		40	332006	Cord sleeve	
16	252004	Retainer		41	335005	Switch cap	
17	212007	Needle bearing	HK0808	42	445003	Switch	
18	221024	Screw	ST5-25	43	443007	Capacitor	
19	145002	Locking pin		44	437001	Connector	
20	162043	Gear box		45	222002	Screw	ST4×16
21	151005	Spring	3×10	47	432004	Brush holder	
22	317005	Locking button		48	431022A	Brush	
23	261005	Locking nut	M6	49	433014	Brush holder cap	
24	330006	Rubber cap		50	315020	Rear cap	
25	137008	Small gear		51	222003	Screw	ST4×18
26	211028	Bearing	6000-2RS	52	623002	Spanner	

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- 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 tools 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 and in the manner intended for particular type of power tool, taking into account the working conditions and the work to be performed. Use the power tool for operations different from those intended could result in a hazardous situation.

## 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.

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.

## Safety Warnings Common for Grinding Operations:

- a) This power tool is intended to function as a grinder tool. Read all safety warnings, instructions, illustrations and specifications provided with this power tool. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.
- b) Operations such as sanding, wire brushing, polishing or cutting-off are not recommended to be performed with this power tool. Operations for which the power tool was not designed may create a hazard and cause personal injury.
- c) Do not use accessories which are not specifically designed and recommended by the tool manufacturer. Just because the accessory can be attached to your power tool, it does not assure safe operation.
- d) 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.
- e) The outside diameter and the thickness of your accessory must be within the capacity rating of your power tool. Incorrectly sized accessories cannot be adequately guarded or controlled.
- f) The arbour size of wheels, flanges, backing pads or any other accessory must properly fit the spindle of the power tool. Accessories with arbour holes that do not match the mounting hardware of the power tool will run out of balance, vibrate excessively and may cause loss of control.
- g) Do not use a damaged accessory. Before each use inspect the accessory such as abrasive wheels for chips and cracks, backing pad for cracks, tear or excess wear, wire brush for loose or cracked wires. If power tool or accessory is dropped, inspect for damage or install an undamaged accessory. After inspecting and installing an accessory, position yourself and bystanders away from the plane of the rotating accessory and run the power tool at maximum no-load speed for one minute. Damaged accessories will normally break apart during this test time.
- h) Wear personal protective equipment. Depending on application, use face shield, safety goggles or safety glasses. As appropriate, wear dust mask, hearing protectors, gloves and workshop apron capable of stopping small abrasive or workpiece fragments. The eye protection must be capable of stopping flying debris generated by various operations. The dust mask or respirator must be capable of filtering particles generated by your operation. Prolonged exposure to high intensity noise may cause hearing loss.
- i) Keep bystanders a safe distance away from work area. Anyone entering the work area must wear personal protective equipment. Fragments of workpiece or of a broken accessory may fly away and cause injury beyond immediate area of operation.

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- j) Hold power tool by insulated gripping surfaces only, 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 shock the operator.
- k) Position the cord clear of the spinning accessory. If you lose control, the cord may be cut or snagged and your hand or arm may be pulled into the spinning accessory.
- l) Never lay the power tool down until the accessory has come to a complete stop. The spinning accessory may grab the surface and pull the power tool out of your control.
- m) Do not run the power tool while carrying it at your side. Accidental contact with the spinning accessory could snag your clothing, pulling the accessory into your body.
- n) Regularly clean the power tools air vents. The motor fan will draw the dust inside the housing and excessive accumulation of powdered material causes overheating and may cause fire.
- o) Do not operate the power tool near flammable materials. Sparks could ignite these materials.
- p) Do not use accessories that require liquid coolants. Using water or other liquid coolants may result in electrocution or shock.

## Further safety instructions for all operations

### Kickback and Related Warnings

Kickback is a sudden reaction to a pinched or snagged rotating wheel, backing pad, brush or any other accessory. Pinching or snagging causes rapid stalling of the rotating accessory which in turn causes the uncontrolled power tool to be forced in the direction opposite of the accessory's rotation at the point of the binding.

For example, if an abrasive wheel is snagged or pinched by the workpiece, the edge of the wheel that is entering into the pinch point can dig into the surface of the material causing the wheel to climb out or kick out. The wheel may either jump toward or away from the operator, depending on direction of the wheel's movement at the point of pinching. Abrasive wheels may also break under these conditions. Kickback is the result of power tool misuse and/or incorrect operating procedures or conditions and can be avoided by taking proper precautions as given below.

- a) Maintain a firm grip on the power tool and position your body and arm to allow you to resist kickback forces. Always use auxiliary handle, if provided, for maximum control over kickback or torque reaction during startup. The operator can control torque reactions or kickback forces, if proper precautions are taken.
- b) Never place your hand near the rotating accessory. Accessory may kickback over your hand.
- c) Do not position your body in the area where power tool will move if kickback occurs. Kickback will propel the tool in direction opposite to the wheel's movement at the point of snagging.
- d) Use special care when working corners, sharp edges etc. Avoid bouncing and snagging the accessory. Corners, sharp edges or bouncing have a tendency to snag the rotating accessory and cause loss of control or kickback.
- e) Do not attach a saw chain woodcarving blade or toothed saw blade. Such blades create frequent kickback and loss of control.

### Safety Warnings Specific for Grinding and Abrasive Cutting-Off Operations:

- a) Use only wheel types that are recommended for your power tool and the specific guard designed for the selected wheel. Wheels for which the power tool was not designed cannot be adequately guarded and are unsafe.
- b) The guard must be securely attached to the power tool and positioned for maximum safety, so the least amount of wheel is exposed towards the operator. The guard helps to protect operator from broken wheel fragments and accidental contact with wheel.
- c) Wheels must be used only for recommended applications. For example: do not grind with the side of cut-off wheel. Abrasive cut-off wheels are intended for peripheral grinding, side forces applied to these wheels may cause them to shatter.
- d) Always use undamaged wheel flanges that are of correct size and shape for your selected wheel. Proper wheel flanges support the wheel thus reducing the possibility of wheel breakage. Flanges for cut-off wheels may be different from grinding wheel flanges.
- e) Do not use worn down wheels from larger power tools. Wheel intended for larger power tool is not suitable for the higher speed of a smaller tool and may burst.

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## TECHNICAL DATA

Type	S1M-SH13-100B	9913B
Size of Emery Wheel	100×5×16mm (Outer Diameter × Thickness × Bore Diameter)	
Maximum Using Circumference	4800m/min	
Speed of the Emery Wheel		
Current Source	AC 220V-240V	50/60Hz
Rated Input Power	670W	
Rated speed	11000r/min	
Weight	2kg	
Standard Spare Parts	Special Wrench 1PC Safety Guard 1PC Carbon Brush 2PCS Operating Handbook 1PC	

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- ◆ Prohibit doing grinding and cutting work on the condition that the protective shield has been dismantled. When putting away the tool, please do switch off the current source and wait for the emery wheel completely stops.

## 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

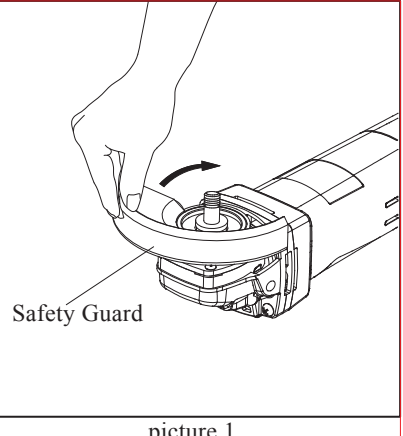
The machine, accessories and packing should be sorted for environmental-friendly recycling. Only for EC countries:  
◆ Do not dispose of power tools into household waste!  
According the European Guideline 2002/96/EC for Waste Electrical and Electronic Equipment and its implementation into national right, power tools that are no longer usable must be collected separately and disposed of in an environmentally correct manner.

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## OPERATION

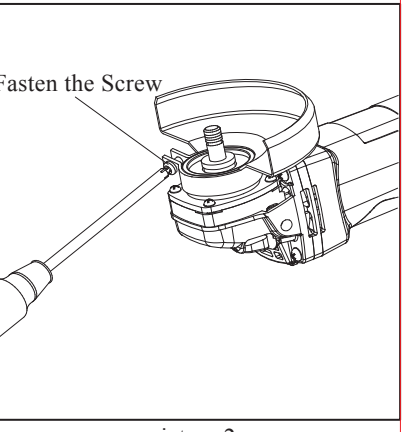
### ◆ Protective Shield of the Emery Wheel

Please aim the convex end of the emery wheel shield to the slot mouth of the front cover, and then rotate the shield body to 180 degree (Picture One).



picture 1

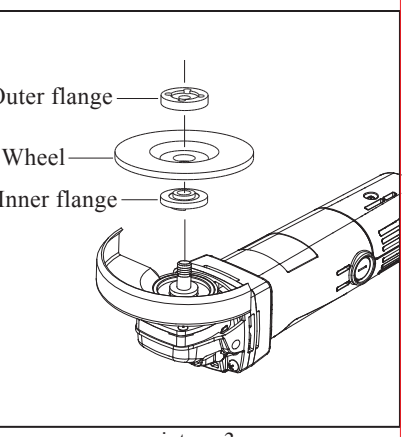
Tighten the fastening screw (Picture Two)



picture 2

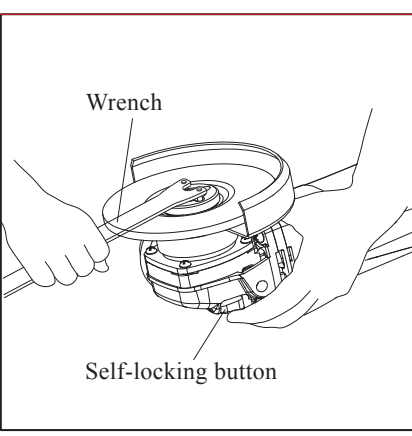
### ◆ Assemble or Disassemble the Emery Wheel

Equip the inner flange on the output axis, and then equip the emery wheel on the inner flange, screw the outer flange the output axis (Picture Three).



picture 3

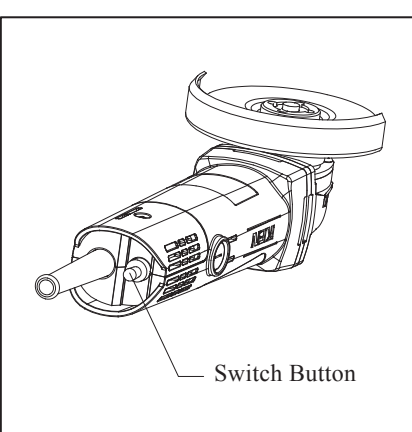
Press the self-locking button, use the special wrench to screw the upper pressure plate tightly (Picture Four).



picture 4

### ◆ Switching on/off

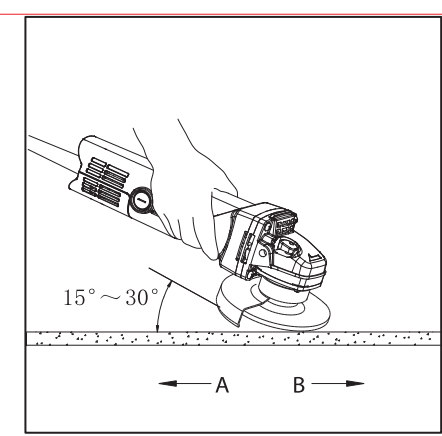
Press and push the on/off switch button to set the switch on, and then tool starts up.  
Press the back of switch button to set the switch button off, the tool will be turned off (Picture Five).



picture 5

### ◆ Effective and Safe Grinding and Cutting Methods

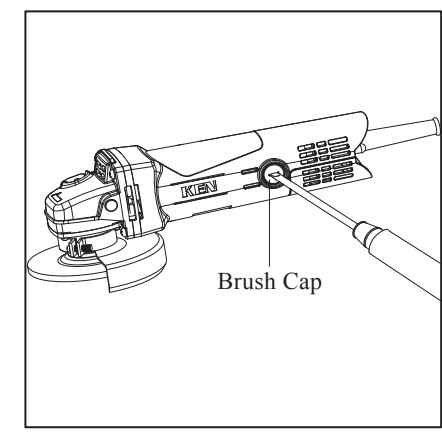
- Please use the correct part of the emery wheel, otherwise it is easy to be damaged.
- The users can get satisfied effects if the users give 1/2 strength compared with the own weight of the tool. Over strength is easy to make the tool engine and emery wheel damaged because of overload.
- Generally speaking, please keep the grinding and cutting part of the emery wheel and disc in the scope of 15 to 30 degree with the surface of processing object. (Picture Six)
- When you use new emery wheel, please don't move the tool toward B direction, otherwise, the processing object is easy to cut-off. When the margin angle of the emery wheel turns round, the tool can be moved towards two directions of A and B (Picture Six).



picture 6

### ◆ 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 Seven).



picture 7

## PRACTICAL TIPS

- ◆ Please use the cymbal shape emery wheel which linear velocity is higher than the speed stipulated on the name plate of the body, and use correct grinding and cutting face to do the processing. Don't use the upside face and side face of the emery wheel.
- ◆ The using emery wheel must be in complete and perfect working condition, it has no disruption sound if beat it slightly with wooden mallet, the reserving period of the emery wheel shall not over one year, it only can be used after making tests of turn and hardness if the period has passed one year.
- ◆ Don't insert the electric source plug into the socket when assemble or disassemble the emery wheel. The maximum circumference speed of all the emery wheels shall not less than 4800m/min.

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