

User Manual

Angle Grinder M3104A/B



GENERAL POWER TOOL SAFETY WARNINGS

WARNING: Read all safety warnings and all instructions.

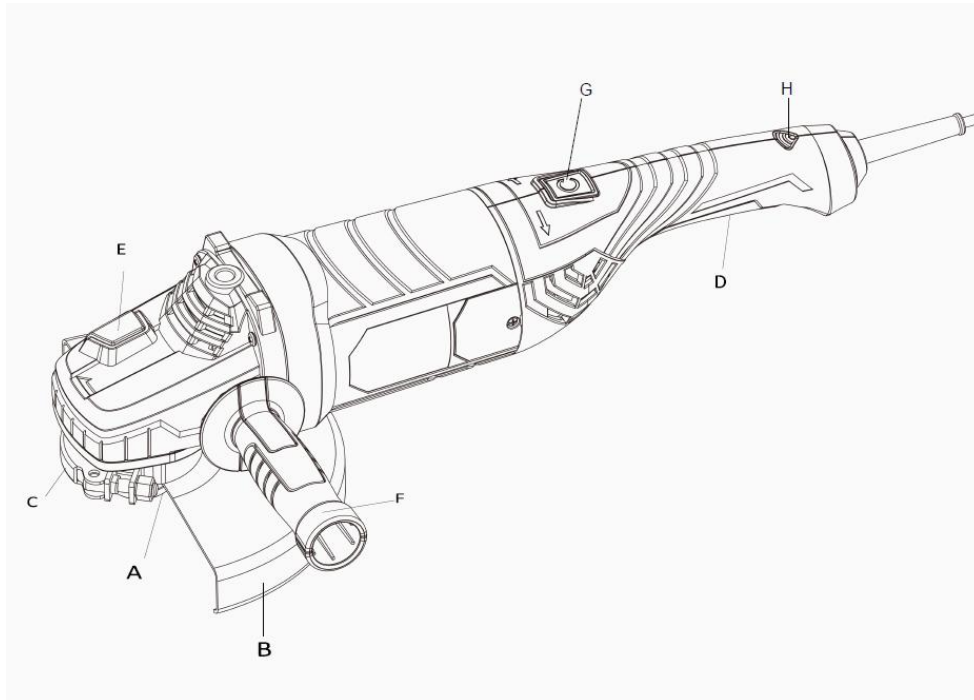
Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference.

The term “power tool” in the warnings refers to your electric (corded) power tool or battery-operated (cordless) power tool.

SPECIFICATIONS

Model No.	M3104A	M3104B
Voltage	220-240V~50Hz	220-240V~50Hz
Power	2000W	2200W
Oscillation Speed	6500 /min	6500 /min
Disc Diameter	180mm/ 230mm	180mm/ 230mm
Weight	5.5 kg	5.5 kg
Protection class	□/ II	□/ II



A.Top Board

B.Wheel Guard

C.Trigger

D.Switch

E.Lock Knob

F.Side Handle

G.Shift Knob

H.Power Indicators

1) WORK AREA SAFETY

a) Keep work area clean and well lit.

Cluttered or 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 plug in any way. Do not

use any adapter plugs with grounded power tools. *Unmodified plugs and matching outlets will reduce risk of electric shock.*

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

f) 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, non-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 jewellery. Keep your hair, clothing and gloves away from moving parts. *Loose clothes, jewellery 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 dust collection can reduce dust-related hazards.*

3) 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 *cannot be controlled with the switch is dangerous and must be repaired.*

DISPOSAL



Do not dispose of electrical appliances with your domestic waste! The packaging comprises exclusively environmentally- friendly material. Dispose of it in your local recycling

MAINTENANCE

- Before any work on the machine itself remove the mains plug from the mains socket.
- For safe and proper working operation, always keep the machine and ventilation slots clean.
- Regularly check to see if any dust or foreign matter has entered the grills near the motor and around the on/off switch. Use a soft brush to remove any accumulated dust.
- Wear safety glasses to protect your eyes whilst cleaning. If the body of the tool needs cleaning, wipe it with a soft damp cloth. A mild detergent can be used but nothing like alcohol, petrol or other such cleaning agents.
- Never use caustic agents to clean plastic part.
- Lubricate all moving parts at regular intervals.

CAUTION :Water must never come into contact with the tool.

If the supply cord of this power tool is damaged, it must be replaced by a specially prepared cord available through the service organisation.

TROUBLESHOOTING

Although your new angle grinder is really very simple to operate, if you do experience problems, please check the following:

1. If your grinder will not operate check the power at the main plug.
2. If your grinder wheel wobbles or vibrates, check that outer flange is tight, check that the wheel is correctly located on the flange plate.
3. If there is any evidence that the wheel is damaged do not use as the damaged wheel may disintegrate, remove it and replace with a new wheel. Dispose of old wheels sensibly.
4. If working on aluminum or a similar soft alloy, the wheel will soon become clogged and will not grind effectively.

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.*

SAFETY INSTRUCTIONS FOR ALL OPERATIONS

Safety Warnings Common for Grinding or Abrasive Cutting-Off Operations

a) This power tool is intended to function as a grinder, sander, 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 grinding, sanding, 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*

d) 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.*

e) 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.

f) 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.

g) 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.*

h) 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.*

i) 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.

j) 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.

k) 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.

l) Regularly clean the power tool's air vents. The motor's fan will draw the dust inside the housing and excessive accumulation of powdered metal may cause electrical hazards.

m) Do not operate the power tool near flammable materials. *Sparks could ignite these materials.*

n) Do not use accessories that require liquid coolants. *Using water or other liquid coolants may result in electrocution or shock,*

o) Your hand must hold on the handle when you are working. Always use the auxiliary handles supplied with the tool. Loss of control can cause personal injury.

p) Do not use accessories that require liquid coolants. *Using water or other liquid coolants may result in electrocution or shock,*

q) Your hand must hold on the handle when you are working. Always use the auxiliary handles supplied with the tool. Loss of control can cause personal injury.

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 start-up. 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.

5. TO USE THE GRINDER

Attention: Do not switch the grinder on whilst the disc is in contact with the workpiece. Allow the disc to reach full speed before starting to grind. Hold your angle grinder with one hand on the main handle and other hand firmly around the auxiliary handle. Always position the guard so that as much of the exposed disc as possible is pointing away from you. Be prepared for a stream of sparks when the disc touches the metal. For best tool control, material removal and minimum overloading, maintain an angle between the disc and work surface of approximately 15°-30° when grinding. Use caution when working into corners as contact with the intersecting surface may cause the grinder to jump or twist. When grinding is complete allow the workpiece to cool. Do not touch the hot surface.

6. WHEEL GUARD FOR CUTTING AND CUTTING DISC ARE NOT SUPPLIED.

Warning! For cutting metal, always work with the wheel guard for cutting. When cutting, do not press, tilt or oscillate the machine. Work with moderate feed, adapted to the material being cut. Do not reduce the speed of running down cutting discs by applying sideward pressure. The direction in which the cutting is performed is important. The machine must always work in an up-grinding motion. Therefore, never move the machine in the other direction! Otherwise, the danger exists of it being pushed uncontrolled out of the cut.

7. OVERLOAD

Overloading will cause damage to the motor of your angle grinder. This can happen if your angle grinder is subjected to heavy use for prolonged periods of time.

Do not in any circumstances, attempt to exert too much pressure on your angle grinder to speed up your work.

If your angle grinder becomes too hot, run you angle grinder under no load for 2-3 minutes until it has cooled to normal operation temperature.

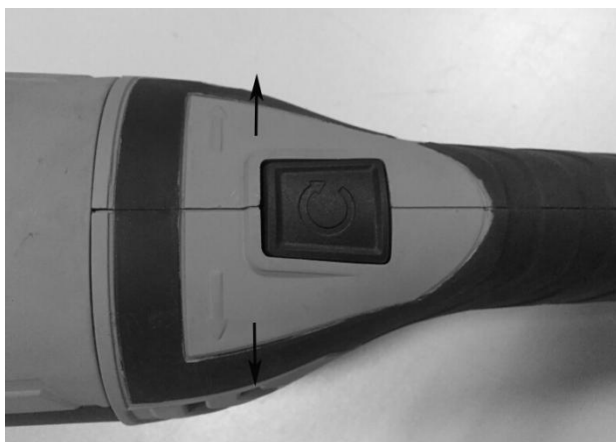
WORKING HINTS FOR YOUR ANGLE GRINDER

1. Your angle grinder is useful for both cutting through metals, i.e. for removing screw heads, and also for cleaning /preparing surfaces, i.e. before and after welding operations.
2. Different types of wheel/cutter will allow the grinder to meet various needs. Typically, grinding wheels and cutting discs are available for mild steel, stainless steel, stone and brick. Diamond impregnated discs are available for very hard materials.
3. If the grinder is used on soft metals such as aluminum the wheel will soon clog and will have to be changed.
4. At all times, let the grinder do the work, do not force it or apply excessive pressure to the wheel/disc.
5. If cutting a slot ensure that the cutter is kept aligned with the slot, twisting the cutter may cause the disc to shatter. If cutting through thin sheet, only allow the cutter to just project through the material, excessive penetration can increase the chance of causing damage.
6. If cutting stone or brick, it is advisable to use a dust extractor.



8.HANDLE ADJUSTMENT

Before using the angle grinder,please choose a direction for handle,user can adjust the handle to a comfortable position as picture show. Before adjusting ,please press the shift knob(G) first,and rotate to left or right direction ,then release it to lock.



9.SLIDE THE ON/OFF SWITCH

To start the power tool, push the small switch to forward first as picture show , then press the on/off switch (D)

To switch off the power tool, just release the on/off switch (D)



10.TO USE THE GRINDER

Attention: Do not switch the grinder on whilst the disc is in contact with the workpiece. Allow the disc to reach full speed before starting to grind.

Hold your angle grinder with one hand on the main handle and other hand firmly around the auxiliary handle.

Always position the guard so that as much of the exposed disc as possible is pointing away from you

Be prepared for a stream of sparks when the disc touches the metal

For best tool control, material removal and minimum overloading, maintain an angle between the disc and work surface of approximately 15°-30° when grinding.

Use caution when working into corners as contact with the intersecting surface may cause the grinder to jump or twist.

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

ADDITIONAL SAFETY INSTRUCTIONS FOR GRINDING AND CUTTING-OFF OPERATION

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.
Additional Safety Warnings Specific for Abrasive Cutting-Off Operations

ADDITIONAL SAFETY INSTRUCTIONS FOR CUTTING-OFF OPERATIONS

a) Do not “jam” the cut-off wheel or apply excessive pressure. Do not attempt to make an excessive depth of cut. Overstressing the wheel increases the loading and susceptibility to twisting or binding of the wheel in the cut and the possibility of kickback or wheel breakage

b) Do not position your body in line with and behind the rotating wheel. When the wheel, at the point of operation, is moving away from your body, the possible kickback may propel the spinning wheel and the power tool directly at you.

c) When wheel is binding or when interrupting a cut for any reason, switch off the power tool and hold the power tool motionless until the wheel comes to a complete stop. Never attempt to remove the cut-off wheel from the cut while the wheel is in motion otherwise kickback may occur. Investigate and take corrective action to eliminate the cause of wheel binding

d) Do not restart the cutting operation in the workpiece. Let the wheel reach full speed and carefully re-enter the cut. The wheel may bind, walk up or kickback if the power tool is restarted in the workpiece

e) Support panels or any oversized workpiece to minimize the risk of wheel pinching and kickback. Large workpieces tend to sag under their own weight. Supports must be placed under the workpiece near the line of cut and near the edge of the workpiece on both sides of the wheel

f) Use extra caution when making a “pocket cut” into existing walls or other blind areas. The protruding wheel may cut gas or water pipes, electrical wiring or objects that can cause kickback.

ADDITIONAL SAFETY INSTRUCTIONS FOR SANDING

OPERATIONS

Safety Warnings Specific for Sanding Operations

a) Do not use excessively oversized sanding disc paper. Follow manufacturer’s recommendations, when selecting sanding paper. Larger sanding paper extending beyond the sanding pad presents a laceration hazard and may cause snagging, tearing of the disc or kickback

Additional safety rules for angle grinders

- **DANGER OF ELECTRIC SHOCK!** Do not operate the device if the mains lead or mains plug is damaged.

- DANGER OF ELECTRIC SHOCK! Do not touch the mains lead if it becomes damaged or cut through while you are using the device. Pull the plug out of the mains socket immediately and have the device repaired by a suitably qualified person or at your service centre.



- DANGER OF ELECTRIC SHOCK! Do not operate the device if it is damp and do not use it in a damp environment.
- DANGER OF ELECTRIC SHOCK! If you use the device outdoors, always connect it through a residual current device with a maximum trip current of 30 mA. If using an extension lead, always use one that is approved for outdoor use.

Do not suspend or carry the device by the mains lead. Always work with the mains lead leading away from the rear of the device. Otherwise the device could be damaged

- Grinding discs must be carefully kept and handled in accordance with the manufacturer's instructions. Otherwise they could be damaged.
- Make sure that abrasive consumables and tools are attached in accordance with the manufacturer's instructions and advice. Otherwise they could become detached from the device and result in injury and / or damage to property.

Ensure that any spacers supplied and required for the use of certain abrasive consumables and tools are installed

- Do not use separate reducing bushes or adapters in order to make grinding discs with a larger bore fit.

When using abrasive consumables and tools with a threaded insert make sure that the tread is long enough for the spindle length. Otherwise the grinding discs could become detached from the device and result in injury and / or damage to property

- Do not allow the end of the spindle to contact the base of the hole in the abrasive consumable.

Do not work in areas where there may be concealed electricity cables or gas or water pipes. Use a suitable detector or ask your local utility service providers. Contact with electricity cables can lead to fire or electric shock

Damaging a gas pipe can lead to an explosion. Penetration of a water pipe can lead to property damage or to electric shock.

Operation Instructions

Note: Before using the tool, read the instruction book carefully.

The machine is intended for cutting, roughing and brushing metal and stone materials without using water. For cutting metal, a special protection guard for cutting (accessory) must be used.

1. FITTING THE AUXILIARY HANDLE

Ensure the tool is switched off and unplugged at the mains

- 1) Identify the threaded hole on each side of the grinder head.
- 2) Screw the side handle firmly into one of them .



NOTE: Always hold your angle grinder firmly with both hands when operating.

2. ADJUSTING THE GUARD

WARNING : Switch off the grinder and disconnect it from the main power

- 1) Loosen the clamping belt by unscrewing the hexagon screw with the supplied hexagon key.
- 2) Position the lug on the inside of the central guard in the vertical slot in the spindle cover and press the guard onto the spindle cover.
- 3) Twist the guard to the appropriate position, where it will deflect hot sparks away from the operator •

Retighten the screw to lock the guard in position

WARNING : for cutting metal, always work with the wheel guard for cutting (no supplied).

The wheel guard for cutting is mounted in the same manner as the above mentioned

3. FITTING AND REMOVING A DISC.

1) Turn the angle grinder on to its back and press the spindle lock button, and then insert the pins of the wrench into the holes in the outer flange and remove it and the old disc. Do not remove the inner flange.

2) Place the disc onto the spindle.

For grinding discs, the flange is fitted with the raised portion facing towards the disc.

For cutting discs (no supplied), the flange is fitted with the raised portion facing away from the disc.

3) Hand tightens the outer flange until the disc is secure.

4) Press the spindle button by hand, ensuring that it is tightly secured and that it rotates fully and does not wobble unduly.

Run the angle grinder under no load for at least one minute to ensure the new disc is in good condition. Make sure you are wearing all the safety gear and that you face the grinder away from you.

CAUTION: Always ensure that the tool is switched off and unplugged from the main power, before any adjustments, maintenances or changing disc

ACCESSORIES

Carefully remove the machine from its packaging and check as the following parts are complete

1 x auxiliary handle

1 x Spanner

If any parts are missing or damaged, please contact your dealer.

We recommend that you purchase your accessories from the same store that sold you the tool. Use good quality accessories marked with a well-known brand name. Choose the type according to the work you intend to undertake. Refer to the accessory packaging for further details. Store personnel can assist you and offer advice