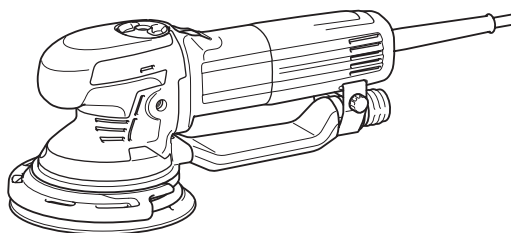


INSTRUCTION MANUAL



Random Orbit Sander BO6050



DOUBLE INSULATION



Read before use.

SPECIFICATIONS

Model:	BO6050
Pad diameter	150 mm
Abrasive disc diameter	150 mm
Orbits per minute (min ⁻¹)	1,600-6,800
Overall length	330 mm
Net weight	2.6 kg
Safety class	□/II

- Due to our continuing program of research and development, the specifications herein are subject to change without notice.
- Specifications may differ from country to country.
- Weight according to EPTA-Procedure 01/2014

Symbols

The following shows the symbols used for the equipment. Be sure that you understand their meaning before use.

	Read instruction manual.
	Wear safety glasses.
	DOUBLE INSULATION
	Only for EU countries Do not dispose of electric equipment together with household waste material! In observance of the European Directive, on Waste Electric and Electronic Equipment and its implementation in accordance with national law, electric equipment that have reached the end of their life must be collected separately and returned to an environmentally compatible recycling facility.

Intended use

The tool is intended for the sanding of large surface of wood, plastic and metal materials as well as painted surfaces.

Power supply

The tool should be connected only to a power supply of the same voltage as indicated on the nameplate, and can only be operated on single-phase AC supply. They are double-insulated and can, therefore, also be used from sockets without earth wire.

Noise

The typical A-weighted noise level determined according to EN62841:

Sound pressure level (L_{pA}) : 82 dB(A)

Sound power level (L_{WA}) : 93 dB (A)

Uncertainty (K) : 3 dB(A)

NOTE: The declared noise emission value(s) has been measured in accordance with a standard test method and may be used for comparing one tool with another.

NOTE: The declared noise emission value(s) may also be used in a preliminary assessment of exposure.

⚠ WARNING: Wear ear protection.

⚠ WARNING: The noise emission during actual use of the power tool can differ from the declared value(s) depending on the ways in which the tool is used especially what kind of workpiece is processed.

⚠ WARNING: Be sure to identify safety measures to protect the operator that are based on an estimation of exposure in the actual conditions of use (taking account of all parts of the operating cycle such as the times when the tool is switched off and when it is running idle in addition to the trigger time).

Vibration

The vibration total value (tri-axial vector sum) determined according to EN62841:

Work mode: sanding metal plate

Vibration emission ($a_{h, p}$) : 5.0 m/s²

Uncertainty (K) : 1.5 m/s²

Work mode: polishing

Vibration emission ($a_{h, p}$) : 3.0 m/s²

Uncertainty (K) : 1.5 m/s²

NOTE: The declared vibration total value(s) has been measured in accordance with a standard test method and may be used for comparing one tool with another.

NOTE: The declared vibration total value(s) may also be used in a preliminary assessment of exposure.

⚠ WARNING: The vibration emission during actual use of the power tool can differ from the declared value(s) depending on the ways in which the tool is used especially what kind of workpiece is processed.

⚠ WARNING: Be sure to identify safety measures to protect the operator that are based on an estimation of exposure in the actual conditions of use (taking account of all parts of the operating cycle such as the times when the tool is switched off and when it is running idle in addition to the trigger time).

EC Declaration of Conformity

For European countries only

The EC declaration of conformity is included as Annex A to this instruction manual.

General power tool safety warnings

⚠ WARNING: 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.

Save all warnings and instructions for future reference.

The term "power tool" in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

Work area safety

1. **Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
2. **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.
3. **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

Electrical safety

1. **Power tool plugs must match the outlet.** Never modify the plug 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.
2. **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.
3. **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
4. **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.
5. **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.
6. **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.
7. **Use of power supply via an RCD with a rated residual current of 30 mA or less is always recommended.**
8. **Power tools can produce electromagnetic fields (EMF) that are not harmful to the user.** However, users of pacemakers and other similar medical devices should contact the maker of their device and/or doctor for advice before operating this power tool.
9. **Do not touch the power plug with wet hands.**
10. **If the cord is damaged, have it replaced by the manufacturer or his agent in order to avoid a safety hazard.**

Personal safety

1. **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.

2. **Use personal protective equipment. Always wear eye protection.** Protective equipment such as a dust mask, non-skid safety shoes, hard hat or hearing protection used for appropriate conditions will reduce personal injuries.
3. **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.
4. **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.
5. **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
6. **Dress properly. Do not wear loose clothing or jewellery. Keep your hair and clothing away from moving parts.** Loose clothes, jewellery or long hair can be caught in moving parts.
7. **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.
8. **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.
9. **Always wear protective goggles to protect your eyes from injury when using power tools. The goggles must comply with ANSI Z87.1 in the USA, EN 166 in Europe, or AS/NZS 1336 in Australia/New Zealand. In Australia/New Zealand, it is legally required to wear a face shield to protect your face, too.**



It is an employer's responsibility to enforce the use of appropriate safety protective equipments by the tool operators and by other persons in the immediate working area.

Power tool use and care

1. **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.
2. **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.

3. Disconnect the plug from the power source and/or remove the battery pack, if detachable, 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.
4. 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.
5. Maintain power tools and accessories. 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.
6. Keep cutting tools sharp and clean. Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
7. 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.
8. Keep handles and grasping surfaces dry, clean and free from oil and grease. Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.
9. When using the tool, do not wear cloth work gloves which may be entangled. The entanglement of cloth work gloves in the moving parts may result in personal injury.

Service

1. 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.
2. Follow instruction for lubricating and changing accessories.

Sander safety warnings

1. Always use safety glasses or goggles. Ordinary eye or sun glasses are NOT safety glasses.
2. Hold the tool firmly.
3. Do not leave the tool running. Operate the tool only when hand-held.
4. This tool has not been waterproofed, so do not use water on the workpiece surface.
5. Ventilate your work area adequately when you perform sanding operations.
6. Some material contains chemicals which may be toxic. Take caution to prevent dust inhalation and skin contact. Follow material supplier safety data.
7. Use of this tool to sand some products, paints and wood could expose user to dust containing hazardous substances. Use appropriate respiratory protection.
8. Be sure that there are no cracks or breakage on the pad before use. Cracks or breakage may cause a personal injury.

SAVE THESE INSTRUCTIONS.

⚠ WARNING: DO NOT let comfort or familiarity with product (gained from repeated use) replace strict adherence to safety rules for the subject product. MISUSE or failure to follow the safety rules stated in this instruction manual may cause serious personal injury.

FUNCTIONAL DESCRIPTION

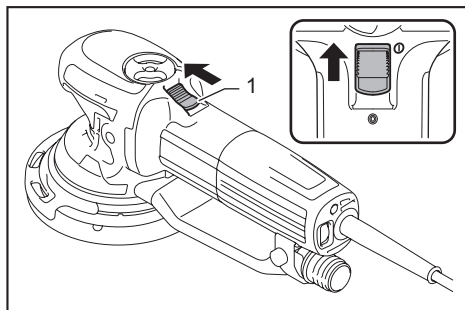
⚠ CAUTION: Always be sure that the tool is switched off and unplugged before adjusting or checking function on the tool.

Switch action

⚠ CAUTION: Before plugging in the tool, always check to see that the slide switch actuates properly and returns to the "OFF" position when the rear of the slide switch is depressed.

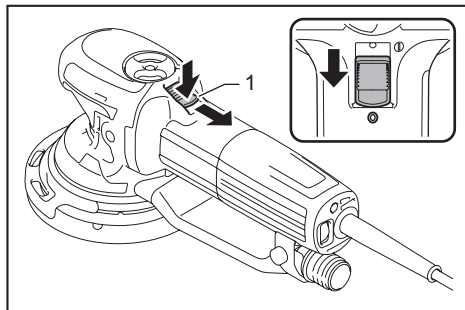
⚠ CAUTION: When locking tool in "ON" position apply caution and maintain firm grasp on tool.

To start the tool, slide the slide switch toward the "I (ON)" position. For continuous operation, press the front of the slide switch to lock it.



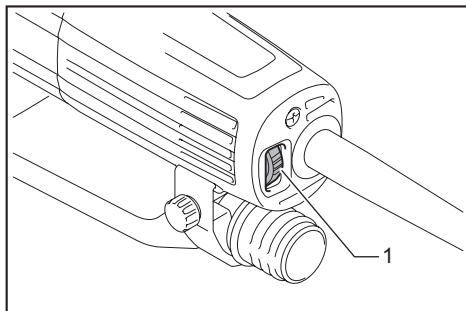
► 1. Slide switch

To stop the tool, press the rear of the slide switch, then slide it toward the "O (OFF)" position.



► 1. Slide switch

Speed adjusting dial



► 1. Speed adjusting dial

The rotating speed can be changed by turning the speed adjusting dial to a given number setting from 1 to 5. Higher speed is obtained when the dial is turned in the direction of number 5. And lower speed is obtained when it is turned in the direction of number 1. Refer to the table for the relationship between the number settings on the dial and the approximate rotating speed.

Number	Orbits per min.	Pad rotating speed per minute in random orbit with forced rotation mode
1	1,600	140
2	2,900	260
3	4,200	370
4	5,500	490
5	6,800	600

NOTICE: If the tool is operated continuously at low speeds for a long time, the motor will get overloaded, resulting in tool malfunction.

NOTICE: The speed adjusting dial can be turned only as far as 5 and back to 1. Do not force it past 5 or 1, or the speed adjusting function may no longer work.

Electronic function

The tools equipped with electronic function are easy to operate because of the following features.

Constant speed control

Possible to get fine finish, because the rotating speed is kept constant even under the loaded condition.

Soft start feature

Soft start because of suppressed starting shock.

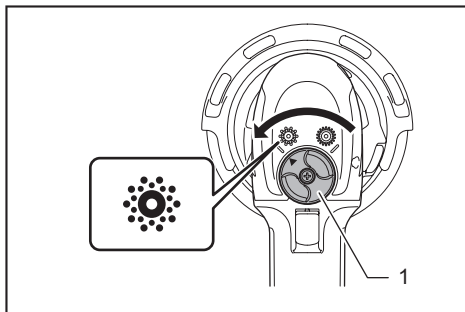
Selecting the action mode

Use the change knob to change the rotation mode.

NOTICE: Always turn the knob fully. If the knob is in the middle position, you can not turn on the tool.

NOTE: You can not change the action mode when the tool is switched on.

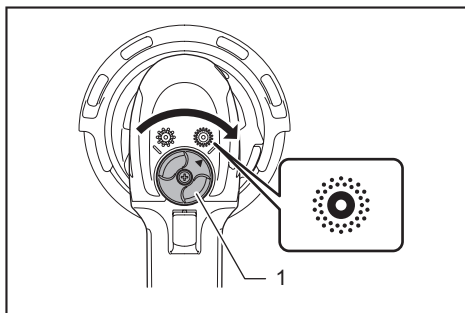
Random orbit with forced rotation mode



► 1. Change knob

Random orbit with forced rotation mode is orbital action with forced rotation of the pad for rough sanding and polishing. Rotate the change knob counterclockwise for random orbit with forced rotation mode.

Random orbit mode



► 1. Change knob

Random orbit mode is orbital action with free rotation of the pad for fine sanding. Rotate the change knob clockwise for random orbit mode.

Typical applications for sanding and polishing

Sanding

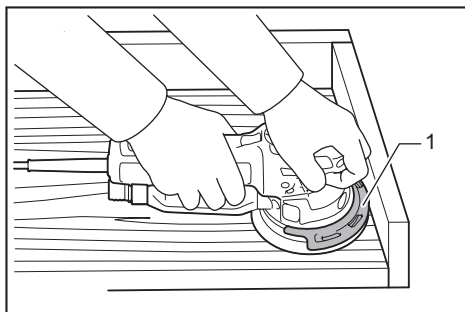
Material	Use	Mode selection		Speed control setting	Pad
		Random orbit with forced rotation	Random		
Paintwork	Sanding	-	○	1 - 3	Soft
	Repairs (scratches, rust spots)	○		2 - 3	Hard
	Rough paint stripping	○	-	4 - 5	Soft
Plastics	Soft plastics (PVC/ABS)	○		1 - 3	Super soft/Soft
	Hard plastics (FRP)	○	-	1 - 3	Soft/Hard
Woods	Softwood	-	○	1 - 3	Super soft/Soft
	Hardwood	○		3 - 5	Soft
	Veneers	-	○	1 - 2	Super Soft
Metals	Non-ferrous metal (aluminum, copper)	○		1 - 3	Soft
	Steel	○	-	3 - 5	Soft/Hard
	Steel, rust removal	○	-	4 - 5	Super Soft
	Hard metal (stainless steel)	○	-	4 - 5	Soft

Polishing

Use	Mode selection	Speed control setting	Pad
Applying wax	Random orbit with forced rotation	2 - 4	Sponge pad
Removing wax	Random orbit with forced rotation	3 - 4	Felt pad
Polishing	Random orbit with forced rotation	3 - 4	Wool pad

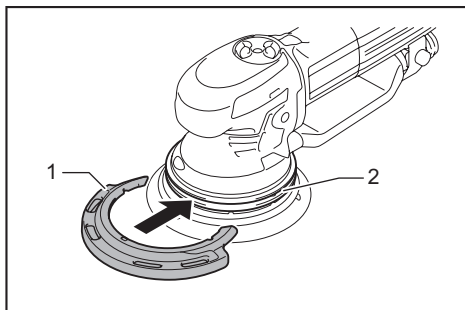
The above information is intended only as a guide. In each case, the most appropriate sanding disc grain should be determined by preliminary trials.

Protector



► 1. Protector

The protector prevents the pad, the tool housing and the wall from being damaged when working near a wall. Always use the protector when working. To install the protector, align the tongue of the protector with the groove, and push in the protector. To remove the protector, pull the protector forward.

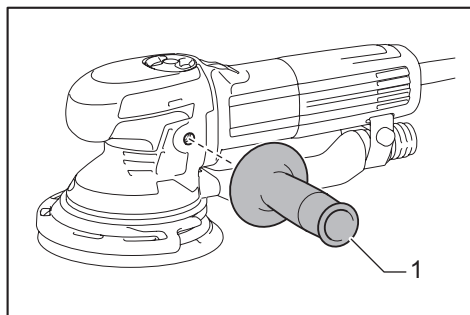


► 1. Protector 2. Groove

ASSEMBLY

CAUTION: Always be sure that the tool is switched off and unplugged before carrying out any work on the tool.

Installing side grip

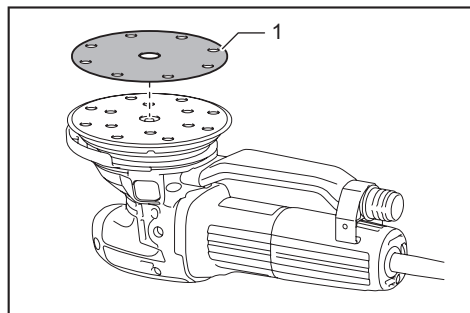


► 1. Side grip

Screw the side grip on the tool securely.
The side grip can be installed on either side of the tool.

Installing or removing abrasive disc

CAUTION: Always use hook-and-loop system abrasive discs. Never use pressure-sensitive abrasive discs.

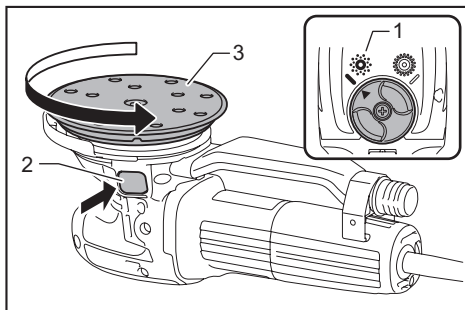


► 1. Abrasive disc

To install the abrasive disc or the hook-and-loop type pad (optional accessory), first remove all dirt and foreign matter from the pad.
Then attach the abrasive disc to the pad, using the hook-and-loop system of the abrasive disc and the pad.
Be careful to align the holes in the abrasive disc with those in the pad.
To remove the disc from the pad, just pull up from its edge.

Changing pad

CAUTION: Make sure the new pad is installed securely. Otherwise the pad may come off from the tool and cause personal injury.



► 1. Random orbit with forced rotation mode 2. Shaft lock button 3. Pad

Makita offers an extensive range of optional super soft, soft and hard pads.

To change the pad, perform as follows:

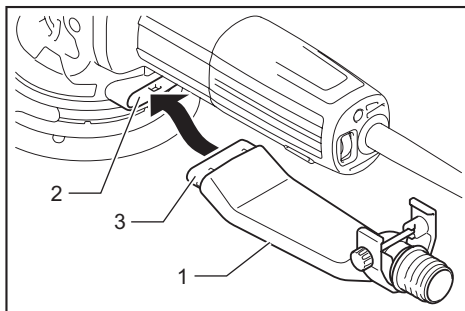
1. Use the change knob and change the mode into random orbit with forced rotation mode.
2. Press and hold the shaft lock button, and remove the pad by turning the pad counterclockwise.
3. Keep holding the shaft lock button, and install a new pad by turning the pad clockwise firmly.

Dust nozzle

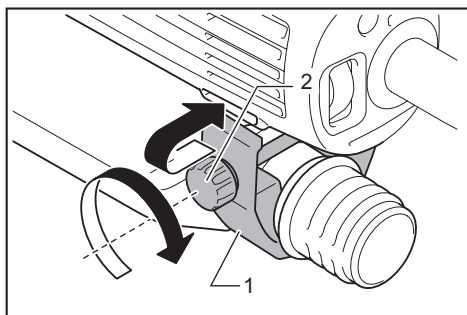
CAUTION: Make sure the bolt is securely tightened after installing the dust nozzle.
Otherwise the dust nozzle may fall and cause personal injury.

NOTICE: Do not carry the tool by the dust nozzle. Otherwise the tool may be damaged.

You can remove the dust nozzle in accordance with the operation.
To remove the dust nozzle, loosen the bolt, slightly open the holder part, and remove the dust nozzle.
To install the dust nozzle, insert the mouth of the dust nozzle into the dust outlet of the housing, align the tongue of the holder part with the groove of the housing, and tighten the bolt.

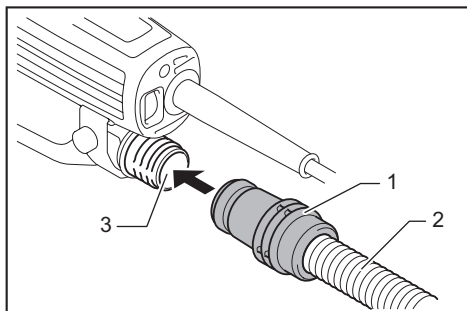


► 1. Dust nozzle 2. Dust outlet 3. Mouth



► 1. Holder part 2. Bolt

Dust collection (optional accessory)



► 1. Front cuffs 2. Hose 3. Dust outlet

If a Makita hose is used, you can connect the front cuffs 24 to the dust outlet directly.

OPERATION

⚠CAUTION: Only use Makita genuine abrasive discs and pads for sander (optional accessories).

⚠CAUTION: Never switch on the tool when it is in contact with the workpiece, it may cause an injury to operator.

⚠CAUTION: Make sure the work material is secured and stable. Falling object may cause personal injury.

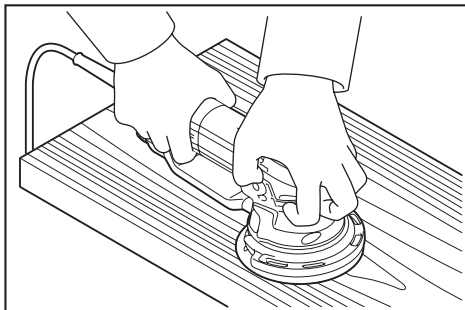
⚠CAUTION: Hold the tool firmly with one hand on the switch handle and the other hand on the front grip (or side handle) when performing the tool.

NOTICE: Be careful not to press down the shaft lock button. It may shorten tool life.

NOTICE: Never force the tool. Excessive pressure may decrease the sanding / polishing efficiency, damage the abrasive disc / pad or shorten tool life.

Sanding operation

NOTICE: Never run the tool without the abrasive disc. You may seriously damage the pad.

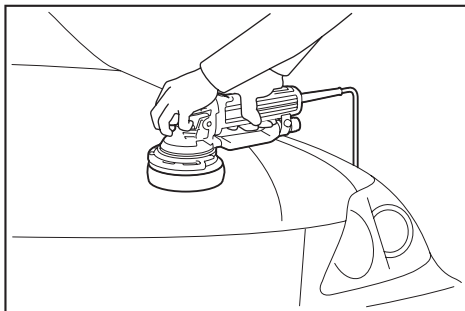


Hold the tool firmly. Turn the tool on and wait until it attains full speed. Then gently place the tool on the workpiece surface. Keep the pad flush with the workpiece and apply slight pressure on the tool.

Polishing operation

Optional accessory

NOTICE: Continuous operation at high speed may damage work surface.



1. Applying wax

Use the sponge pad. Apply wax to the sponge pad or work surface. Run the tool at low speed to smooth out wax.

NOTE: First, wax a not conspicuous portion of the work surface to make sure that the tool will not scratch the surface or result in uneven waxing.

2. Removing wax

Use the felt pad. Run the tool to remove wax.

3. Polishing

Apply the wool pad gently to the work surface.

MAINTENANCE

⚠ CAUTION: Always be sure that the tool is switched off and unplugged before attempting to perform inspection or maintenance.

NOTICE: Never use gasoline, benzine, thinner, alcohol or the like. Discoloration, deformation or cracks may result.

To maintain product SAFETY and RELIABILITY, repairs, any other maintenance or adjustment should be performed by Makita Authorized or Factory Service Centers, always using Makita replacement parts.

OPTIONAL ACCESSORIES

⚠ CAUTION: These accessories or attachments are recommended for use with your Makita tool specified in this manual. The use of any other accessories or attachments might present a risk of injury to persons. Only use accessory or attachment for its stated purpose.

If you need any assistance for more details regarding these accessories, ask your local Makita Service Center.

- Hook-and-loop type abrasive discs (with pre-punched holes)
- Hook-and-loop type sponge pad
- Hook-and-loop type felt pad
- Hook-and-loop type wool pad
- Pad 150 (Super soft, Soft, Hard)
- Pad 130 (Polishing)
- Side grip

NOTE: Some items in the list may be included in the tool package as standard accessories. They may differ from country to country.

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