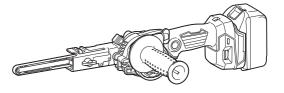
INSTRUCTION MANUAL



Cordless Belt Sander DBS180





SPECIFICATIONS

Model:	DBS180	
Belt size	9 mm x 533 mm	
Belt speed	600 - 1,700 m/min	
Overall length	500 mm *1	
Rated voltage	D.C. 18 V	
Net weight	2.1 kg	

- *1. With abrasive belt and battery cartridge (BL1860B).
- 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, with battery cartridge, according to EPTA-Procedure 01/2014

Applicable battery cartridge and charger

Battery cartridge	BL1815N / BL1820 / BL1820B / BL1830 / BL1830B / BL1840 / BL1840B / BL1850 / BL1850B / BL1860B	
Charger	DC18RC / DC18RD / DC18RE / DC18SD / DC18SE / DC18SF / DC18SH	

Some of the battery cartridges and chargers listed above may not be available depending on your region of residence.

WARNING: Only use the battery cartridges and chargers listed above. Use of any other battery cartridges and chargers may cause injury and/or fire.

Symbols

The followings show the symbols which may be used for the equipment. Be sure that you understand their meaning before use.



Read instruction manual.



Wear safety glasses.



Only for EU countries

Do not dispose of electric equipment or battery pack together with household waste material!

In observance of the European Directives, on Waste Electric and Electronic Equipment and Batteries and Accumulators and Waste Batteries and Accumulators and their implementation in accordance with national laws, electric equipment and batteries and battery pack(s) 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.

Noise

The typical A-weighted noise level determined according to EN62841-2-4:

Sound pressure level (L_{pA}): 77 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.

AWARNING: 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.

AWARNING: 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 EN62841-2-4:

Work mode: sanding metal plate
Vibration emission (a_h): 2.5 m/s² or less

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.

SAFETY WARNINGS

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

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

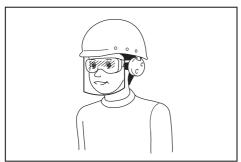
Electrical safety

- 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.
- 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.

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

Personal safety

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

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.

Battery tool use and care

- Recharge only with the charger specified by the manufacturer. A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.
- Use power tools only with specifically designated battery packs. Use of any other battery packs may create a risk of injury and fire.
- When battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects, that can make a connection from one terminal to another. Shorting the battery terminals together may cause burns or a fire.
- Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help. Liquid ejected from the battery may cause irritation or burns.
- Do not use a battery pack or tool that is damaged or modified. Damaged or modified batteries may exhibit unpredictable behaviour resulting in fire, explosion or risk of injury.
- Do not expose a battery pack or tool to fire or excessive temperature. Exposure to fire or temperature above 130 °C may cause explosion.
- 7. Follow all charging instructions and do not charge the battery pack or tool outside the temperature range specified in the instructions. Charging improperly or at temperatures outside the specified range may damage the battery and increase the risk of fire.

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.
- Never service damaged battery packs. Service of battery packs should only be performed by the manufacturer or authorized service providers.
- Follow instruction for lubricating and changing accessories.

CORDLESS BELT SANDER SAFETY WARNINGS

- Ventilate your work area adequately when you perform sanding operations.
- Some material contains chemicals which may be toxic. Take caution to prevent dust inhalation and skin contact. Follow material supplier safety data.
- Always use the correct dust mask/respirator for the material and application you are working with.
- Always use safety glasses or goggles. Ordinary eye or sun glasses are NOT safety glasses.
- 5. Hold the tool firmly with both hands.
- Make sure the belt is not contacting the workpiece before the switch is turned on.
- 7. Keep hands away from rotating parts.
- Do not leave the tool running. Operate the tool only when hand-held.

 This tool has not been waterproofed, so do not use water on the workpiece surface.

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.

Important safety instructions for battery cartridge

- Before using battery cartridge, read all instructions and cautionary markings on (1) battery charger, (2) battery, and (3) product using battery.
- Do not disassemble or tamper the battery cartridge. It may result in a fire, excessive heat, or explosion.
- If operating time has become excessively shorter, stop operating immediately. It may result in a risk of overheating, possible burns and even an explosion.
- If electrolyte gets into your eyes, rinse them out with clear water and seek medical attention right away. It may result in loss of your eyesight.
- 5. Do not short the battery cartridge:
 - Do not touch the terminals with any conductive material.
 - Avoid storing battery cartridge in a container with other metal objects such as nails, coins, etc.
 - (3) Do not expose battery cartridge to water or rain.

A battery short can cause a large current flow, overheating, possible burns and even a breakdown.

- Do not store and use the tool and battery cartridge in locations where the temperature may reach or exceed 50 °C (122 °F).
- Do not incinerate the battery cartridge even if it is severely damaged or is completely worn out. The battery cartridge can explode in a fire.
- Do not nail, cut, crush, throw, drop the battery cartridge, or hit against a hard object to the battery cartridge. Such conduct may result in a fire, excessive heat, or explosion.
- 9. Do not use a damaged battery.
- The contained lithium-ion batteries are subject to the Dangerous Goods Legislation requirements.

For commercial transports e.g. by third parties, forwarding agents, special requirement on packaging and labeling must be observed.

For preparation of the item being shipped, consulting an expert for hazardous material is required. Please also observe possibly more detailed national regulations.

Tape or mask off open contacts and pack up the battery in such a manner that it cannot move around in the packaging.

- When disposing the battery cartridge, remove it from the tool and dispose of it in a safe place. Follow your local regulations relating to disposal of battery.
- Use the batteries only with the products specified by Makita. Installing the batteries to non-compliant products may result in a fire, excessive heat, explosion, or leak of electrolyte.
- If the tool is not used for a long period of time, the battery must be removed from the tool.
- During and after use, the battery cartridge may take on heat which can cause burns or low temperature burns. Pay attention to the handling of hot battery cartridges.
- Do not touch the terminal of the tool immediately after use as it may get hot enough to cause burns.
- Do not allow chips, dust, or soil stuck into the terminals, holes, and grooves of the battery cartridge. It may result in poor performance or breakdown of the tool or battery cartridge.
- 17. Unless the tool supports the use near high-voltage electrical power lines, do not use the battery cartridge near high-voltage electrical power lines. It may result in a malfunction or breakdown of the tool or battery cartridge.
- 18. Keep the battery away from children.

SAVE THESE INSTRUCTIONS.

♠ CAUTION: Only use genuine Makita batteries. Use of non-genuine Makita batteries, or batteries that have been altered, may result in the battery bursting causing fires, personal injury and damage. It will also void the Makita warranty for the Makita tool and charger.

Tips for maintaining maximum battery life

- Charge the battery cartridge before completely discharged. Always stop tool operation and charge the battery cartridge when you notice less tool power.
- Never recharge a fully charged battery cartridge. Overcharging shortens the battery service life.
- Charge the battery cartridge with room temperature at 10 °C 40 °C (50 °F 104 °F). Let a hot battery cartridge cool down before charging it.
- When not using the battery cartridge, remove it from the tool or the charger.
- Charge the battery cartridge if you do not use it for a long period (more than six months).

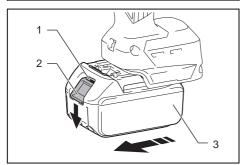
FUNCTIONAL DESCRIPTION

ACAUTION: Always be sure that the tool is switched off and the battery cartridge is removed before adjusting or checking function on the tool.

Installing or removing battery cartridge

ACAUTION: Always switch off the tool before installing or removing of the battery cartridge.

♠ CAUTION: Hold the tool and the battery cartridge firmly when installing or removing battery cartridge. Failure to hold the tool and the battery cartridge firmly may cause them to slip off your hands and result in damage to the tool and battery cartridge and a personal injury.



1. Red indicator 2. Button 3. Battery cartridge

To remove the battery cartridge, slide it from the tool while sliding the button on the front of the cartridge.

To install the battery cartridge, align the tongue on the battery cartridge with the groove in the housing and slip it into place. Insert it all the way until it locks in place with a little click. If you can see the red indicator on the upper side of the button, it is not locked completely.

CAUTION: Always install the battery cartridge fully until the red indicator cannot be seen. If not, it may accidentally fall out of the tool, causing injury to you or someone around you.

ACAUTION: Do not install the battery cartridge forcibly. If the cartridge does not slide in easily, it is not being inserted correctly.

Tool / battery protection system

The tool is equipped with a tool/battery protection system. This system automatically cuts off the power to extend tool and battery life. The tool will automatically stop during operation if the tool or battery is placed under one of the following conditions:

Overload protection

This protection works when the tool is operated in a manner that causes it to draw an abnormally high current. In this situation, turn the tool off and stop the application that caused the tool to become overloaded. Then turn the tool on to restart.

Overheat protection

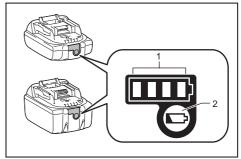
This protection works when the tool or battery is overheated. In this situation, let the tool and battery cool before turning the tool on again.

Overdischarge protection

This protection works when the remaining battery capacity gets low. In this situation, remove the battery from the tool and charge the battery.

Indicating the remaining battery capacity

Only for battery cartridges with the indicator



1. Indicator lamps 2. Check button

Press the check button on the battery cartridge to indicate the remaining battery capacity. The indicator lamps light up for a few seconds.

Indicator lamps		Remaining	
Lighted	Off	Blinking	capacity
			75% to 100%
			50% to 75%
			25% to 50%
			0% to 25%
			Charge the battery.
	1 I		The battery may have malfunctioned.

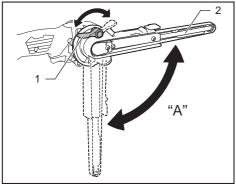
NOTE: Depending on the conditions of use and the ambient temperature, the indication may differ slightly from the actual capacity.

NOTE: The first (far left) indicator lamp will blink when the battery protection system works.

Adjusting arm inclination

The arm can be pivoted and fixed at any desired angle within the range "A" (-5° to 90°) in the figure. Adjust the angle to make a comfortable working position.

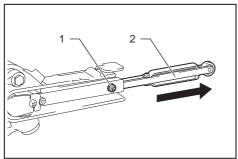
Loosen the lock lever by raising it. Pivot the arm to the desired position, and secure the lock lever to fix the arm firmly.



1. Lock lever 2. Arm

Replacing arm

6 mm (1/4") and 13 mm (1/2") width belts can be installed with the optional arms that are designed for the corresponding belt widths. Loosen the screw that secures the arm and replace the standard-equipped arm with the optional arm, then tighten the screw firmly.



▶ 1. Screw 2. Arm

Switch action

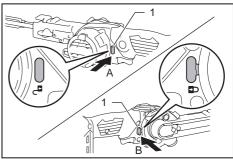
▲ WARNING: For your safety, this tool is equipped with the lock-off switch which prevents the tool from unintended starting. NEVER use the tool if it runs when you simply pull the switch trigger without releasing the lock-off switch. Return the tool to our authorized service center for proper repairs BEFORE further usage.

ACAUTION: Before installing the battery cartridge into the tool, always check to see that the switch trigger actuates properly and returns to the "OFF" position when released. Operating a tool with a switch that does not actuate properly can lead to loss of control and serious personal injury.

NOTICE: Do not pull the switch trigger hard without releasing the lock-off switch. This can cause switch breakage.

NOTICE: The lock-off switch cannot be released while the arm is being pivoted beyond 90°.

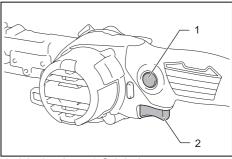
To prevent the switch trigger from being accidentally pulled, a lock-off switch is provided. Depress the switch lever (a) from the A side to unlock the switch trigger, and (a) from the B side to lock in.



▶ 1. Lock-off switch

To start the tool, pull the switch trigger. Release the switch trigger to stop.

For continuous operation, pull the switch trigger and then push in the lock button. To stop the tool from the locked switch position, pull the switch trigger fully, and then release it.

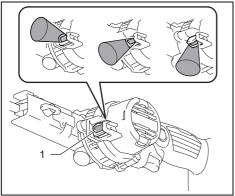


1. Lock-on button 2. Switch trigger

Lighting up the front lamp

ACAUTION: Do not look in the light or see the source of light directly.

The lighting direction can be adjusted at three levels through an angle of 60°. Pull the switch trigger to turn on the lamp. To turn off, release it. The lamp goes out approximately 10 seconds after releasing the switch trigger.



1. Lamp

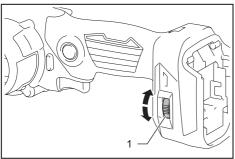
NOTE: When the tool is overheated, the light flashes for one minute. In this case, cool down the tool before operating again.

NOTE: Use a dry cloth to wipe the dirt off the lens of the lamp. Be careful not to scratch the lens of lamp, or it may lower the illumination.

Speed adjusting dial

The belt speed can be adjusted between 600 m and 1,700 m per minute (1,970 - 5,600 ft/min) 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; lower speed is obtained when it is turned in the direction of number 1. Select the proper speed for the workpiece to be sanded.

ACAUTION: The speed adjusting dial can only be turned between the numbers indicated on the dial. Do not apply an excessive force to turn the dial outside that range, or the speed adjustment may not function.



1. Speed adjusting dial

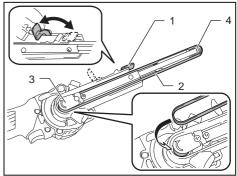
ASSEMBLY

ACAUTION: Always be sure that the tool is switched off and the battery cartridge is removed before carrying out any work on the tool.

Removing and installing abrasive belt

Pull the cam lever back to release the tension in the belt, and remove the belt.

To install the belt, place one side of the belt over the rear pulley in first, hook the other side over the front pulley, and then set the cam lever to the original position.

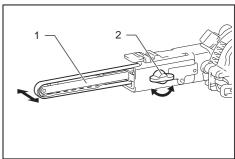


 Cam lever 2. Abrasive belt 3. Rear pulley 4. Front pulley

Adjusting belt tracking

Make sure that the belt is aligned with the arm properly on a trial run at low speed.

Use the thumb screw to center the belt tracking. Turn the screw clockwise to incline the arm to the right when looking down at the tool with its arm pointed forward, and in counterclockwise to the left.



1. Arm 2. Thumb screw

Installing side grip

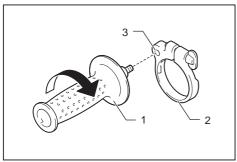
ACAUTION: Securely tighten the thumb screw before operation.

▲ CAUTION: Avoid exerting a strong external force on the side grip, otherwise the grip base becomes loosely attached and the tool may fall off causing damage or personal injury in the following conditions:

- Apply a full impact on the side grip during operation
- Handle the tool carelessly only with one hand on the side grip
- Carry the tool only with one hand on the side grip

The side grip (auxiliary handle) helps hold the tool firmly during operation.

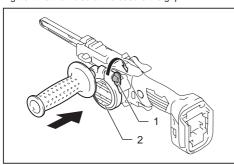
1. Screw the grip into the fastening nut placed in the grip base.



1. Grip 2. Grip base 3. Fastening nut

2. Loosen the thumb screw in the grip base. Attach the base to the barrel of the motor housing aligning the locking tab on the base with the shallow groove in the surface of the housing.

Tighten the thumb screw to secure the grip.



1. Thumb screw 2. Motor housing

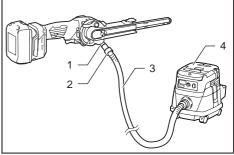
Connecting to Makita vacuum cleaner

ACAUTION: Always close the nozzle cap when a vacuum cleaner is not connected to the nozzle. Never insert your finger into the nozzle.

NOTICE: Read the instruction manual supplied with your vacuum cleaner before using it.

NOTE: Optional front cuffs 22, joints or tool adapters may be required to make connections depending on your vacuum cleaner system.

Cleaner sanding operations can be performed by connecting the belt sander to Makita vacuum cleaner. Open the nozzle cap, and install the dust nozzle. Connect the hose of a vacuum cleaner to the dust nozzle.



 Dust nozzle 2. Front cuffs / joint / adapter 3. Hose of vacuum cleaner 4. Vacuum cleaner

OPERATION

ACAUTION: Secure workpiece with clamps, etc. if it possibly moves during operation.

ACAUTION: Avoid any sanding operations on ignitable materials such as aluminum and magnesium. It may result in a fire, explosion or risk of injury.

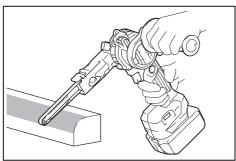
ACAUTION: Be sure that not any part of the sanding belt is placed on the surface of workpiece before you turn the tool on or off. Otherwise a poor sanding finish, damage to the belt or loss of control of the tool may result.

ACAUTION: Avoid body contact with the belt and rotating parts of the tool during operation. Always be aware of your surroundings and bystanders, and stay alert for possible hazards.

ACAUTION: Do not attempt to hold and operate the tool upside down. It may cause a serious accident resulting in personal injury.

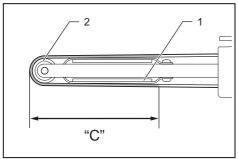
Turn the tool on and wait until it attains full speed. Hold the tool firmly with both hands. Gently apply the tool to the work-piece surface and move the tool forward and backward.





Always use the range "C" (between the end of flat shoe and front pulley) in the figure to sand the workpiece.

Press the belt only lightly on the workpiece. Excessive pressure may damage the belt and shorten the life of the tool.



1. Flat shoe 2. Front pulley

MAINTENANCE

▲ CAUTION: Always be sure that the tool is switched off and the battery cartridge is removed before attempting to perform inspection or maintenance.

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

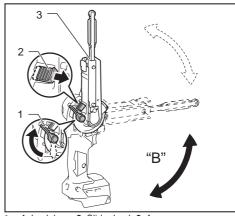
To maintain product SAFETY and RELIABILITY, repairs, any other maintenance or adjustment should be performed by Makita Authorized or Factory Service Centers, always using Makita replacement parts.

Storage

ACAUTION: Be careful not to pinch your fingers when moving the arm. Failure to do so may cause personal injury.

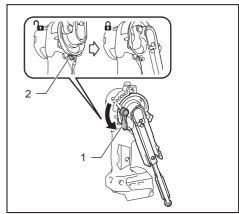
The arm can move through an angle of up to 160°. Fold the arm up to save a storage space.

- Loosen the lock lever by raising it. Pivot the arm at an angle of 90°.
- Push and hold the slider knob, and then adjust the angle of the arm in the range "B" (90° to 160°) in the figure.



▶ 1. Lock lever 2. Slider knob 3. Arm

Secure the lock lever to fix the arm.



▶ 1. Lock lever 2. Lock-off switch

NOTICE: The lock-off switch is automatically activated while the arm is being pivoted beyond 90°.

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.

- Dust nozzle assembly
- Arm (6, 9, 13 mm (1/4", 3/8", 1/2"))
- Abrasive belts
- Dust cover complete
- Hose complete 28
- Front cuffs
- Makita genuine battery and charger

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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885815-220 EN 20200625