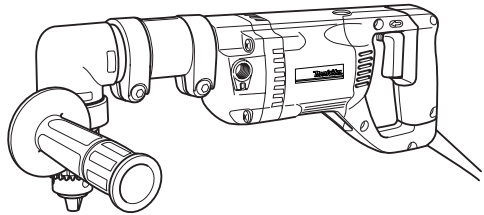




# Angle Drill

13 mm (1/2")  
MODEL DA4000LR



003009



## I N S T R U C T I O N M A N U A L

**⚠ WARNING:**

For your personal safety, READ and UNDERSTAND before using.  
SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

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# SPECIFICATIONS

Model		DA4000LR
Capacities	Steel	13 mm (1/2")
	Wood	38 mm (1-1/2")
No load speed (RPM)	High	0 - 900/min.
	Low	0 - 400/min.
Overall length		413 mm (16-1/4")
Net weight		3.7 kg (8.1 lbs)

- Manufacturer reserves the right to change specifications without notice.
- Specifications may differ from country to country.

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# GENERAL SAFETY RULES

USA002-2

(For All Tools)

## **WARNING:**

**Read and understand all instructions.** Failure to follow all instructions listed below, may result in electric shock, fire and/or serious personal injury.

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# SAVE THESE INSTRUCTIONS

## Work Area

1. **Keep your work area clean and well lit.** Cluttered benches and 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 bystanders, children, and visitors away while operating a power tool.** Distractions can cause you to lose control.

## Electrical Safety

4. **Double insulated tools are equipped with a polarized plug (one blade is wider than the other.) This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install a polarized outlet. Do not**

- 
- change the plug in any way.** Double insulation  eliminates the need for the three wire grounded power cord and grounded power supply system.
- 5. 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.
  - 6. Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
  - 7. Do not abuse the cord. Never use the cord to carry the tools or pull the plug from an outlet. Keep cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately.** Damaged cords increase the risk of electric shock.
  - 8. When operating a power tool outside, use an outdoor extension cord marked “W-A” or “W”.** These cords are rated for outdoor use and reduce the risk of electric shock.

### Personal Safety

- 9. Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use tool while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.
- 10. Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair can be caught in moving parts.
- 11. Avoid accidental starting. Be sure switch is off before plugging in.** Carrying tools with your finger on the switch or plugging in tools that have the switch on invites accidents.
- 12. Remove adjusting keys or wrenches before turning the tool on.** A wrench or a key that is left attached to a rotating part of the tool may result in personal injury.

- 13. Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control of the tool in unexpected situations.
- 14. Use safety equipment. Always wear eye protection.** Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions. Ordinary eye or sun glasses are NOT eye protection.

### Tool Use and Care

- 15. Use clamps or other practical way to secure and support the workpiece to a stable platform.** Holding the work by hand or against your body is unstable and may lead to loss of control.
- 16. Do not force tool. Use the correct tool for your application.** The correct tool will do the job better and safer at the rate for which it is designed.
- 17. Do not use tool if switch does not turn it on or off.** Any tool that cannot be controlled with the switch is dangerous and must be repaired.
- 18. Disconnect the plug from the power source before making any adjustments, changing accessories, or storing the tool.** Such preventive safety measures reduce the risk of starting the tool accidentally.
- 19. Store idle tools out of reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.
- 20. Maintain tools with care. Keep cutting tools sharp and clean.** Properly maintained tools with sharp cutting edges are less likely to bind and are easier to control.
- 21. Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tools operation. If damaged, have the tool serviced before using.** Many accidents are caused by poorly maintained tools.
- 22. Use only accessories that are recommended by the manufacturer for your**

**model.** Accessories that may be suitable for one tool, may become hazardous when used on another tool.

**SERVICE**

**23. Tool service must be performed only by qualified repair personnel.** Service or main-

tenance performed by unqualified personnel could result in a risk of injury.

**24. When servicing a tool, use only identical replacement parts. Follow instructions in the Maintenance section of this manual.** Use of unauthorized parts or failure to follow Maintenance instructions may create a risk of electric shock or injury.

**USE PROPER EXTENSION CORD:** Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. Table 1 shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gage. The smaller the gage number, the heavier the cord.

**Table 1: Minimum gage for cord**

Ampere Rating		Volts	Total length of cord in feet			
		120 V	25 ft.	50 ft.	100 ft.	150 ft.
More Than	Not More Than	AWG				
0	6		18	16	16	14
6	10		18	16	14	12
10	12		16	16	14	12
12	16		14	12	Not Recommended	

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## SPECIFIC SAFETY RULES


USB001-2

**DO NOT let comfort or familiarity with product (gained from repeated use) replace strict adherence to drill safety rules. If you use this tool unsafely or incorrectly, you can suffer serious personal injury.**

1. Hold tool by insulated gripping surfaces when performing an operation where the cutting tools may contact hidden wiring or its own cord. Contact with a “live” wire will make exposed metal parts of the tool “live” and shock the operator.
2. Always be sure you have a firm footing. Be sure no one is below when using the tool in high locations.
3. Hold the tool firmly.
4. Keep hands away from rotating parts.
5. Do not leave the tool running. Operate the tool only when hand-held.
6. Do not touch the drill bit or the workpiece immediately after operation; they may be extremely hot and could burn your skin.
7. Some material contains chemicals which may be toxic. Take caution to prevent dust inhalation and skin contact. Follow material supplier safety data.

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## SAVE THESE INSTRUCTIONS

** WARNING:**  
**MISUSE or failure to follow the safety rules stated in this instruction manual may cause serious personal injury.**

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# SYMBOLS


USD201-2

The followings show the symbols used for tool.

**V** ..... volts


**n.** .....no load speed

**A** ..... amperes

 ..... Class II Construction

**Hz** ..... hertz

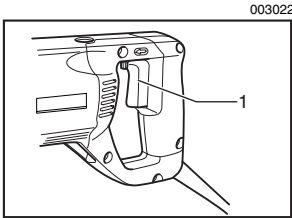
**.../min**..... revolutions or reciprocation per  
minute

 ..... alternating current

# FUNCTIONAL DESCRIPTION

**⚠ CAUTION:**

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



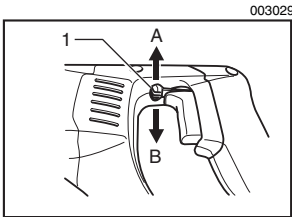
1. Switch trigger

## Switch action

**⚠ CAUTION:**

- Before plugging in the tool, always check to see that the switch trigger actuates properly and returns to the “OFF” position when released.

To start the tool, simply pull the switch trigger. Tool speed is increased by increasing pressure on the switch trigger. Release the switch trigger to stop.



1. Reversing switch lever

## Reversing switch action

This tool has a reversing switch to change the direction of rotation. Move the reversing switch lever to the A side for clockwise rotation or the B side for counterclockwise rotation.

**⚠ CAUTION:**

- Always check the direction of rotation before operation.
- Use the reversing switch only after the tool comes to a complete stop. Changing the direction of rotation before the tool stops may damage the tool.

# ASSEMBLY

**⚠ CAUTION:**

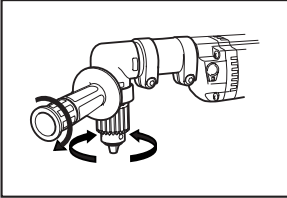
- Always be sure that the tool is switched off and unplugged before carrying out any work on the tool.

## Installing side grip (auxiliary handle)

**⚠ CAUTION:**

- Always use the side grip and hold it with both hands to ensure operating safety.

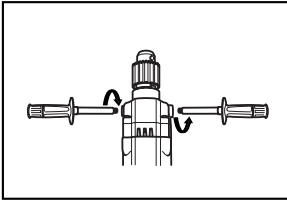
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### Use of it with angle attachment

Screw the side grip for the angle attachment on the angle housing. Then tighten the side grip by turning clockwise at the desired position.

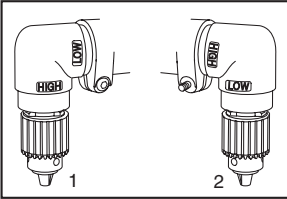
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### Use of it without angle attachment

Screw the side grip on the tool barrel securely. The side grip can be installed on either side of the tool, whichever is convenient.

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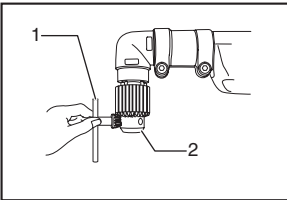
### Installing or removing angle attachment

The angle head has a spindle on each end. For higher speed operation, attach the drill chuck to the end marked "HIGH". The higher speed is better suited for drilling smaller diameter holes.

For lower speed operation, attach the drill chuck to the end marked "LOW". The lower speed is best utilized for drilling larger diameter holes.

1. High
2. Low

003067



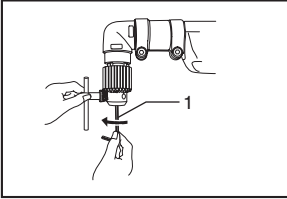
The tool is factory assembled with the chuck on spindle end marked "HIGH". To change to the "LOW" speed, proceed as follows:

To remove the drill chuck, first open the chuck jaws completely and place the chuck key in one of the key holes.

1. Chuck key
2. Drill chuck



003068



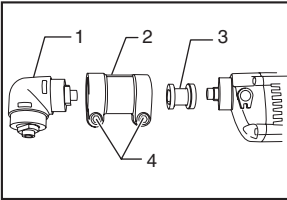
1. Hex wrench

Remove the chuck remaining bolt through the chuck opening by turning it counterclockwise with the hex wrench.

**⚠ CAUTION:**

- The drill chuck and the bolt are assembled each other. Turn the bolt counterclockwise about 10 times so that they can be removed together.

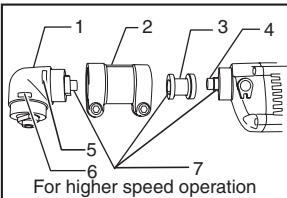
003069



1. Angle housing
2. Joint
3. Socket
4. Bolt

Loosen the bolts of the joint by the hex wrench and remove the angle housing, the joint and the socket.

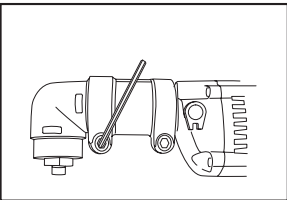
003070



1. Angle housing
2. Joint
3. Socket
4. Spindle
5. Low
6. High
7. Two faces

To install the socket and the joint, fit the socket to the spindle so that the two faces are fitted perfectly. Then install the joint. For higher speed operation, fit the angle housing marked “LOW” to the joint. For lower speed operation, fit the angle housing marked “HIGH” to the joint.

003071

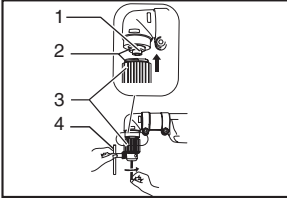


Rotate the angle housing to the desired position. Tighten the bolt with the hex wrench firmly. And retighten the another bolt firmly again.

**⚠ CAUTION:**

- Be sure to tighten the two bolts firmly, or it may present a risk of injury to persons.

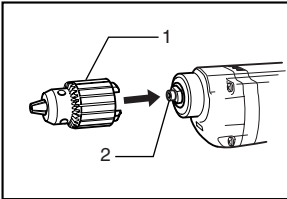
003072



1. Spindle
2. Two faces
3. Drill chuck
4. Chuck key

Slide the drill chuck to the spindle so that the two faces are fitted perfectly. Holding the drill chuck with the chuck key, tighten the bolt (for installing the drill chuck) clockwise with the hex wrench firmly.

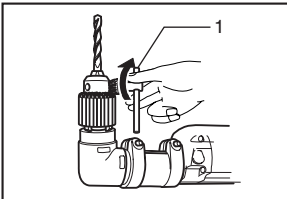
003073



1. Drill chuck
2. Spindle

The tool may be converted to a conventional straight drive drill by installing the drill chuck without the angle attachment.

003055



1. Chuck key

### Installing or removing drill bit

To install the bit, place it in the chuck as far as it will go. Tighten the chuck by hand. Place the chuck key in each of the three holes and tighten clockwise. Be sure to tighten all three chuck holes evenly.

To remove the bit, turn the chuck key counterclockwise in just one hole, then loosen the chuck by hand.

After using the chuck key, be sure to return to the original position.

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# OPERATION

## Holding tool

When drilling a large hole with a hole saw, etc., the side grip (auxiliary handle) should be used as a brace to maintain safe control of the tool.

## Drilling operation

### Drilling in wood

When drilling in wood, the best results are obtained with wood drills equipped with a guide screw. The guide screw makes drilling easier by pulling the bit into the workpiece.

### Drilling in metal

To prevent the bit from slipping when starting a hole, make an indentation with a center-punch and hammer at the point to be drilled. Place the point of the bit in the indentation and start drilling.

Use a cutting lubricant when drilling metals. The exceptions are iron and brass which should be drilled dry.

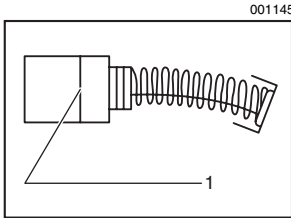
### CAUTION:

- Pressing excessively on the tool will not speed up the drilling. In fact, this excessive pressure will only serve to damage the tip of your bit, decrease the tool performance and shorten the service life of the tool.
- There is a tremendous twisting force exerted on the tool/bit at the time of hole breakthrough. Hold the tool firmly and exert care when the bit begins to break through the workpiece.
- A stuck bit can be removed simply by setting the reversing switch to reverse rotation in order to back out. However, the tool may back out abruptly if you do not hold it firmly.
- Always secure small workpieces in a vise or similar hold-down device.
- Avoid drilling in material that you suspect contains hidden nails or other things that may cause the bit to bind or break.

## MAINTENANCE

### ⚠ CAUTION:

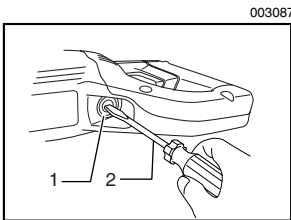
- Always be sure that the tool is switched off and unplugged before attempting to perform inspection or maintenance.



1. Limit mark

### Replacing carbon brushes

Remove and check the carbon brushes regularly. Replace when they wear down to the limit mark. Keep the carbon brushes clean and free to slip in the holders. Both carbon brushes should be replaced at the same time. Use only identical carbon brushes.



1. Brush holder cap  
2. Screwdriver

Use a screwdriver to remove the brush holder caps. Take out the worn carbon brushes, insert the new ones and secure the brush holder caps.

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.

## 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.

Drill bits

Chuck key

Side grip

Extension attachment

Depth gauge assembly

Hex wrench 5

Plastic carrying case

# WARNING

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- lead from lead-based paints,
- crystalline silica from bricks and cement and other masonry products, and
- arsenic and chromium from chemically-treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.