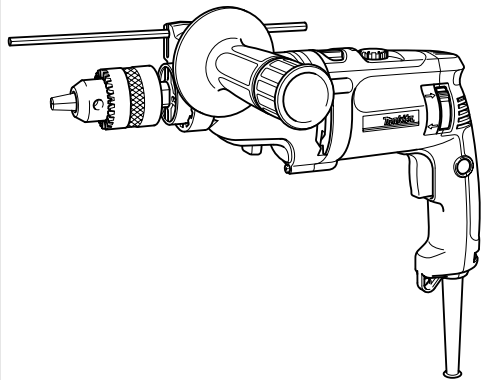




2-Speed Hammer Drill

MODEL HP2070
MODEL HP2070F
MODEL HP2071
MODEL HP2071F



M A N U A L

⚠ WARNING:

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

SPECIFICATIONS

Model		HP2070/HP2070F		HP2071/HP2071F	
Speed		High	Low	High	Low
Capacities	Concrete	20 mm (3/4")	-----	20 mm (3/4")	-----
	Steel	8 mm (5/16")	16 mm (5/8")	8 mm (5/16")	16 mm (5/8")
	Wood	25 mm (1")	40 mm (1-9/16")	25 mm (1")	40 mm (1-9/16")
No load speed (RPM)		0 - 2,900/min.	0 - 1,200/min.	0 - 2,900/min.	0 - 1,200/min.
Blows per minute		0 - 58,000	0 - 24,000	0 - 58,000	0 - 24,000
Overall length		364 mm (14-3/8")		362 mm (14-1/4")	
Net weight		2.4 kg (5.3 lbs)		2.4 kg (5.3 lbs)	

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

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.

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	

SPECIFIC SAFETY RULES

USB002-2

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

- 1. Hold tools by insulated gripping surfaces when performing an operation where the cutting tool 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 with both hands. Always use the side grip.**
- 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 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 working dust inhalation and skin contact. Follow material supplier safety data.

SAVE THESE INSTRUCTIONS

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

SYMBOLS


USD202-2

The followings show the symbols used for tool.


V volts

A amperes


Hz hertz

 alternating current

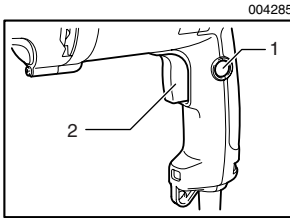
n_0 no load speed

 Class II Construction

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

 number of blow

FUNCTIONAL DESCRIPTION



1. Lock button
2. Switch trigger

⚠ CAUTION:

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

Switch action

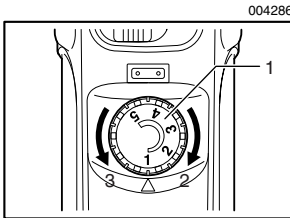
⚠ CAUTION:

- Before plugging in the tool, always check to see that the switch trigger actuates properly and returns to the “OFF” position when released.
- Switch can be locked in “ON” position for ease of operator comfort during extended use. Apply caution when locking tool in “ON” position and maintain firm grasp on tool.

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.

For continuous operation, pull the switch trigger and then push in the lock button.

To stop the tool from the locked position, pull the switch trigger fully, then release it.

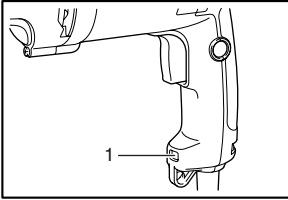


1. Speed adjusting dial
2. Higher
3. Lower

A speed adjusting dial is provided so that maximum tool speed can be limited (variable). Turn the speed adjusting dial clockwise for higher speed, and counterclockwise for lower speed.

Lighting up the lamps

004287



1. Lamp

For Model HP2070F, HP2071F

⚠ CAUTION:

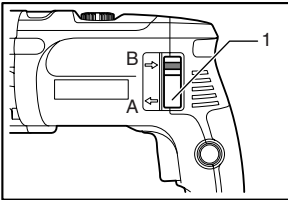
- Do not look in the light or see the source of light directly.

To turn on the lamp, pull the trigger. Release the trigger to turn it off.

NOTE:

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

004288



1. Reversing switch

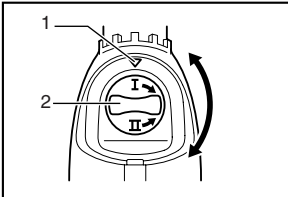
Reversing switch action

This tool has a reversing switch to change the direction of rotation. Move the reversing switch lever to the ← position (A side) for clockwise rotation or the → position (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.
- If the switch trigger can not be depressed, check to see that the reversing switch is fully set to position ← (A side) or → (B side).

002691



1. Arrow

2. Speed change knob

Speed change

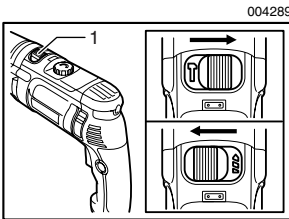
Two speed ranges can be preselected with the speed change knob.

To change the speed, turn the speed change knob so that the arrow on the tool body points toward the "I" position on the knob for low speed or "II" position for high speed.

If it is hard to turn the knob, first turn the chuck slightly in either direction and then turn the knob again.

⚠ CAUTION:

- Use the speed change knob only after the tool comes to a complete stop. Changing the tool speed before the tool stops may damage the tool.
- Always set the speed change knob to the correct position. If you operate the tool with the speed change knob positioned halfway between the “I” and “II” position, the tool may be damaged.



1. Action mode changing lever

Selecting the action mode

This tool has an action mode change lever. For rotation with hammering, slide the action mode change lever to the right (**T** symbol). For rotation only, slide the action mode change lever to the left (**⚡** symbol).

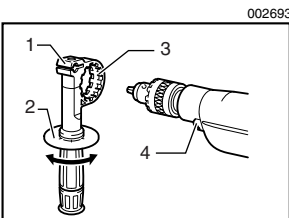
⚠ CAUTION:

- Always slide the action mode change lever all the way to your desired mode position. If you operate the tool with the lever positioned halfway between the mode symbols, the tool may be damaged.

ASSEMBLY

⚠ CAUTION:

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



1. Grip base
2. Side grip (auxiliary handle)
3. Teeth
4. Protrusions

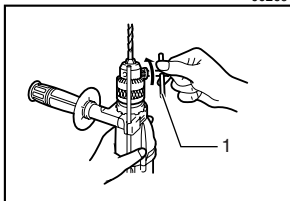
Installing side grip (auxiliary handle)

Always use the side grip to ensure operating safety. Install the side grip so that the teeth on the grip fit in between the protrusions on the tool barrel.

Then tighten the grip by turning clockwise at the desired position. It may be swung 360° so as to be secured at any position.

Installing or removing drill bit

002694



1. Chuck key

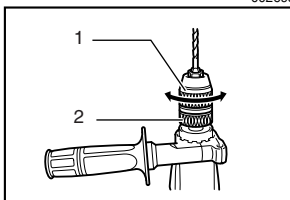
For Model HP2070, HP2070F

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.

002695



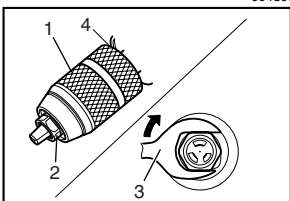
1. Sleeve
2. Ring

For Model HP2071, HP2071F

Hold the ring and turn the sleeve counterclockwise to open the chuck jaws. Place the bit in the chuck as far as it will go. Hold the ring firmly and turn the sleeve clockwise to tighten the chuck.

To remove the bit, hold the ring and turn the sleeve counterclockwise.

004390

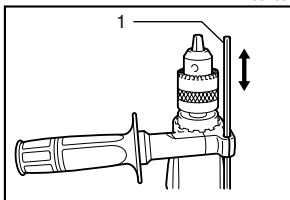


1. Sleeve
2. Hexagonal nut
3. Wrench 19
4. Retaining ring

NOTE:

- If the keyless drill chuck cannot be loosened because of a drill bit being caught inside the jaws of the chuck, loosen the drill chuck as follows.
1. Hold the sleeve of the drill chuck firmly with water pump pliers or the like (Note: Do not hold the retaining ring portion.)
 2. Place the wrench 19, adjustable wrench or one of other appropriate wrenches on the hexagonal nut at the front of the drill chuck. Turn the wrench clockwise as shown in the figure to loosen the drill chuck.

002696



1. Depth gauge

Depth gauge

The depth gauge is convenient for drilling holes of uniform depth. Loosen the side grip and insert the depth gauge into the hole in the side grip. Adjust the depth gauge to the desired depth and tighten the side grip.

NOTE:


- The depth gauge cannot be used at the position where the depth gauge strikes against the tool body.

OPERATION

Hammer drilling operation

⚠ CAUTION:

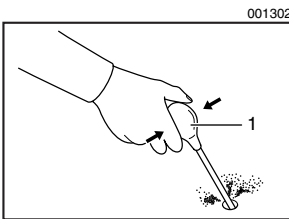
- There is a tremendous and sudden twisting force exerted on the tool/bit at the time of hole break-through, when the hole becomes clogged with chips and particles, or when striking reinforcing rods embedded in the concrete. Always use the side grip (auxiliary handle) and firmly hold the tool by both side grip and switch handle during operations. Failure to do so may result in the loss of control of the tool and potentially severe injury.

When drilling in concrete, granite, tile, etc., move the action mode changing lever to the position of  symbol to use “rotation with hammering” action.

Be sure to use a tungsten-carbide tipped bit.

Position the bit at the desired location for the hole, then pull the switch trigger. Do not force the tool. Light pressure gives best results. Keep the tool in position and prevent it from slipping away from the hole.

Do not apply more pressure when the hole becomes clogged with chips or particles. Instead, run the tool at an idle, then remove the bit partially from the hole. By repeating this several times, the hole will be cleaned out and normal drilling may be resumed.




1. Blow-out bulb

Blow-out bulb (optional accessory)

After drilling the hole, use the blow-out bulb to clean the dust out of the hole.

Drilling operation

When drilling in wood, metal or plastic materials, move the action mode changing lever to the position of  symbol to use “rotation only” action.

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 force exerted on the tool/bit at the time of hole break through. 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.

MAINTENANCE

⚠ CAUTION:

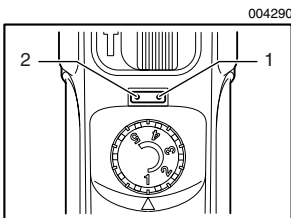
- Always be sure that the tool is switched off and unplugged before attempting to perform inspection or maintenance.

Indicator lamp

The green power-ON indicator lamp lights up when the tool is switched ON. If the indicator lamp is lit but the tool does not start, the carbon brushes may be worn out, or the electric circuit or the motor may be defective. If the indicator lamp does not light up and the tool does not start, the ON/OFF switch or the mains cord may be defective.

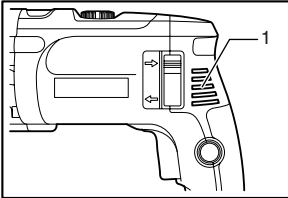
The red service indicator lamp lights up when the tool is excessively loaded. Continued operation under such a condition will result in a failure or breakage of the tool.

At this time, cool down the tool by running the tool under no load.



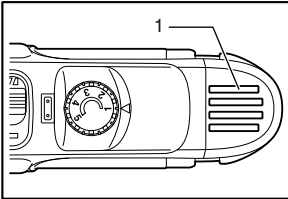
1. Power-ON indicator lamp (green)
2. Service indicator lamp (red)

004291



1. Vent holes

004350



1. Vent holes

Cleaning vent holes

The tool and its air vents have to be kept clean. Regularly clean the tool's air vents or whenever the vents start to become obstructed.

To maintain product SAFETY and RELIABILITY, repairs, carbon brush inspection and replacement, 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
- Hammer drill bits
- Hole saws
- Blow-out bulb
- Safety goggles
- Chuck key
- Grip assembly
- Depth gauge
- 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.