

RYOBI POWER EQUIPMENT WARRANTY

Subject to the warranty conditions below, this RYOBI tool (hereinafter called "the Product"), is warranted by Ryobi (herein called "the Company") to be free from defects in material or workmanship for a period of 24 months from the date of original purchase covering both parts and labour. Under the terms of this warranty, the repair or replacement of any part shall be the opinion of the Company or its authorised agent. Should service become necessary during the warranty period, the owner should contact the authorised Ryobi retailer from whom the product was purchased, or the nearest Company branch office. In order to obtain warranty service, the owner must include the Sales Docket and Warranty Certificate to confirm date of purchase. This Product is sold by the dealer or agent as principal and the dealer has no authority from the Company to give any additional warranty or guarantee on the Company's behalf except as herein contained or herein referred to.

Warranty Conditions

This warranty only applies provided that the Product has been used in accordance with the manufacturer's recommendations under normal use and reasonable care (in the opinion of the Company) and such warranty does not cover consumable components, damage, malfunction or failure resulting from

misuse, neglect, abuse, or used for a purpose for which it was not designed, or is not suited and no repairs, alterations or modifications have been attempted by other than an Authorised Service Agent. This guarantee will not apply if the tool is damaged by accident or if repairs arise from normal wear and tear.

Accessories such as bits, blades, sanding discs, cutting lines, etc., are excluded from this guarantee. Normal consumable parts, such as carbon brushes, bearings, chucks, cord assembly's, spark plugs, recoil pulleys and bump head assembly's are specifically excluded from this guarantee.

The Company accepts no additional liability pursuant to this warranty for the costs of traveling or transportation of the Product or parts to and from the service dealer or agent - which costs are not included in the warranty.

Nothing herein shall have the effect of excluding, restricting or modifying any conditions, warranty, right or liability imposed, to the extent only that such exclusion, restriction or modification would render any term herein void.

RYOBI®

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THIS WARRANTY FORM SHOULD BE RETAINED BY THE CUSTOMER AT ALL TIMES.

For your record and to assist in establishing date of purchase (necessary for in-warranty service), please keep your purchase docket and this form, completed with the following particulars.

PURCHASED FROM:.....

ADDRESS OF DEALER:.....

DATE:..... MODEL NO..... SERIAL NO.....

Present this form with your Purchase Docket when Warranty Service is required.

RYOBI®

OWNER'S OPERATING MANUAL ROTARY HAMMER DRILL MODEL ED-1500

SPECIFICATIONS

Voltage.....	230V~50Hz
Rated input.....	1500W
No load speed.....	0-750/min
Hammer speed.....	0-4000BPM (Blows Per Minute)
Impact energy.....	6.5J
Drilling capacity in masonry.....	32mm
Drilling capacity in steel.....	13mm
Drilling capacity in wood.....	40mm
Sound pressure level.....	L_{pA} 96.8dB(A),k=3dB(A)
Sound power level.....	L_{WA} 107.8dB(A),k=3dB(A)
Vibration levels	
Hammer drilling in concrete (Main handle).....	$a_{h(HD)}$ 16.250m/s ² , K=1.5m/s ²
Hammer drilling in concrete (Auxiliary handle).....	$a_{h(HD)}$ 10.989m/s ² , K=1.5m/s ²
Chiselling (Main handle).....	$a_{h(ChEq)}$ 14.793m/s ² , K=1.5m/s ²
Chiselling (Auxiliary handle).....	$a_{h(ChEq)}$ 11.161m/s ² , K=1.5m/s ²

THANK YOU FOR BUYING A RYOBI ROTARY HAMMER DRILL

Your new rotary hammer drill has been engineered and manufactured to Ryobi's high standard of dependability, ease of operation and operator safety. Properly cared for, it will give you years of rugged, trouble free performance. If you use your rotary hammer drill properly and only for what it is intended, you will enjoy years of safe, reliable service.



CAUTION: Carefully read through this entire owner's manual, paying close attention to the general safety rules and rules for safe operation, before using.

KEEP THIS MANUAL FOR FUTURE REFERENCE

IMPORTANT SAFETY INSTRUCTIONS

The purpose of safety rules is to attract your attention to possible dangers. The safety symbols and the explanations with them, require your careful attention and understanding. The safety warnings do not by themselves eliminate any danger. The instruction or warnings they give are not substitutes for proper accident prevention measures.



SAFETY ALERT SYMBOL. Indicates danger, caution or warning. May be used in conjunction with other symbols or pictures.

Failure to obey a safety warning can result in serious injury to yourself or to others. Always follow the safety precautions to reduce the risk of fire, electric shock and personal injury.

Do not attempt to operate this tool until you have read thoroughly and completely understood the safety rules, etc. contained in this manual. Failure to comply can result in accidents involving fire, electric shock or serious personal injury. Save this Owners Operating Manual and review it frequently for continual safe operation and for instructing others who may use this tool.

INTENDED USE

This product is intended for the purposes listed below:

- Drilling in all types of aggregate products (brick, concrete, concrete block, stone and other aggregates)

You may use this product with the chuck adaptor (not included) for the purposes listed below:

- Drilling in all types of wood products (lumber, plywood, paneling, composition board and hard board)
- Drilling in ceramics, plastics, fibreglass, and laminates
- Drilling in metals
- Driving screws
- Hammer drilling in concrete, brick, or other masonry



WARNING

To reduce the risk of injury, the user must read and understand the operator's manual.



WARNING

Do not attempt to operate this tool until you have read thoroughly and understood completely all instructions, safety rules etc contained in this manual. Failure to comply may result in accidents involving fire, electric shock or serious personal injury. Save operator's manual and review frequently for continuing safe operation, and instructing others who may use this tool.

IMPORTANT SAFETY INSTRUCTIONS

Wear ear protectors with hammer drills. Exposure to noise can cause hearing loss.

Use auxiliary handles supplied with the tool. Loss of control can cause personal injury.

Hold power tool by insulated gripping surfaces, when performing an operation where the cutting accessory may contact hidden wiring. Cutting accessory contacting a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.

Know your power tool. Read operator's manual carefully. Learn its applications and limitations, as well as the specific potential hazards related to this power tool. Following this rule will reduce the risk of electric shock, fire, or serious injury.

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.

Always wear eye protection with side shields marked to comply with ANSI Z87.1. Following this rule will reduce the risk of serious personal injury.

Protect your lungs. Wear a face or dust mask if the operation is dusty. Following this rule will reduce the risk of serious personal injury.

Protect your hearing. Wear hearing protection during extended periods of operation. Following this rule will reduce the risk of serious personal injury.

Do not operate this tool for long periods of time. Vibration caused by hammer action may be harmful to your hands and arms. Use gloves to provide extra cushion and limit exposure by taking frequent rest periods.

IMPORTANT SAFETY INSTRUCTIONS

DO NOT let children come into contact with the tool. Supervision is required when inexperienced operators use this tool.

This product is not intended for use by persons (including children) suffering from diminished physical, sensory or mental abilities; lack of experience, knowledge or skills unless they are supervised by a person responsible for their safety. Children should never be left alone with this product.

Keep a firm grip on the tool at all times. Do not attempt to operate this tool without holding it with both hands. It is recommended that the side handle be used at all times. Operating this tool with one hand will result in loss of control. Breaking through or encountering hard materials such as re-bar may be hazardous as well. Tighten the side handle securely before use.

Do not recondition bits yourself. Chisel reconditioning should be done by an authorised specialist. Improperly reconditioned chisels could cause injury.

Wear gloves when operating tool or changing bits. Accessible metal parts on the tool and bits may get extremely hot during operation. Small bits of broken material may damage bare hands.

Never lay the tool down until the bit has come to a complete stop. Moving bits could cause injury.

Keep the power cord away from the rotating bit. Do not wrap the cord around any part of your body. An electric cord wrapped around a spinning bit may cause personal injury and loss of control.

When using this product it is essential that the following rules for use are followed:

When drilling it is common that the core / drill bit jams in the material being drilled. This will result in the product trying to rotate around the drill bit and potentially come out of your grip. This product has a safety clutch mechanism. This safety clutch mechanism will be activated and stop the drive to the drill bit BUT only if you resist the initial forces caused by the jamming by securely holding the product with both hands.

Do not strike jammed bits with a hammer to dislodge them. Fragments of metal or material chips could dislodge and cause injury.

ALWAYS ensure that the auxiliary handle is firmly affixed and secured.

The auxiliary and main handle must be firmly held to resist any movement of the product when the core drill or drill bit becomes jammed.

ALWAYS use this product when standing on a firm and secure platform or the ground. (DO NOT USE ON LADDERS OR STEPS.)

NEVER start the product with the core or drill bit jammed in position.

DO NOT stretch to hold the product. Do not work above shoulder height or below knee height, as the product cannot be securely held.

VIBRATION AND NOISE REDUCTION

To reduce the impact of noise and vibration emission, limit the time of operation, use low-vibration and low-noise operating modes as well as wear personal protective equipment.

Take the following points into account to minimise the vibration and noise exposure risks:

Only use the product as intended by its design and these instructions.

Ensure that the product is in good condition and well maintained.

Use correct cutting attachments for the product and ensure they are in good condition.

Keep tight grip on the handles/grip surface.

Maintain this product in accordance with these instructions and keep lubricated (where appropriate).

Plan your work schedule to spread any high vibration tool use across a longer period of time.

EMERGENCY

Familiarise yourself with the use of this product by means of this instruction manual. Memorise the safety directions and follow them to the letter. This will help to prevent risks and hazards.

Always be alert when using this product, so that you can recognise and handle risks early. Fast intervention can prevent serious injury and damage to property.

IMPORTANT SAFETY INSTRUCTIONS

Switch off and disconnect from the power supply if there are malfunctions. Have the product checked by a qualified professional and repaired, if necessary, before you operate it again.

RESIDUAL RISKS

Even if you are operating this product in accordance with all the safety requirements, potential risks of injury and damage remain. The following dangers can arise in connection with the structure and design of this product:

Health defects resulting from vibration emission if the product is being used over long periods of time or not adequately managed and properly maintained.

Injuries and damage to property due to broken cutting attachments or the sudden impact of hidden objects during use.

Danger of injury and property damage caused by flying objects.

Injuries caused by touching the rotating parts or hot parts of the tool.

Impairment of hearing.

Risk of squeezing fingers when changing the accessory.

Health hazards caused by breathing dust developed when working in concrete and/or masonry.

ELECTRICAL SAFETY

CAUTION! The following states how damage to the rotary hammer drill and possible injury to people can be avoided:

Handle the unit with care. Clean the ventilation slots regularly, follow the maintenance instructions.

Do not overload your device. Work only within the indicated range of performance. Do not use low power machines for heavy duty work. Do not use your device for purposes for which it has not been designed.

Do not attempt to repair the machine yourself unless you are qualified to do so. Any work not specified in this manual may only be carried out by a qualified service centre.

Only use extension cables that have been approved for outdoor use and are resistant to splash water. The core diameter for extension

cables measuring up to 25m must be at least 1.5 mm², and 2.5 mm² for cables longer than 25m. Always roll the whole cable off the reel before use. Check the cable for damage.

The supply voltage must correspond to the voltage specified on the modelplate.

Do not abuse the cable. Never move the unit by the cable or pull the cable to disconnect it from the mains socket. Keep the cable away from heat, oil and sharp edges. Ensure that the cable is arranged so that it cannot be tripped over, stepped on or have heavy weights rested on it. Make sure the cable will not be subjected to any damage.

Do not use the machine if the cables are damaged or worn.

Do not connect a damaged cable to the mains supply or touch a damaged cable before it is disconnected from the mains supply. A damaged cable can lead to an electric shock.

GENERAL SAFETY RULES

WARNING! Read all instructions Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury. The term "power tool" in all of the warnings listed below refers to your mains operated (corded) power tool or battery operated (cordless) power tool.

SAVE THESE INSTRUCTIONS

1) WORK AREA

- a) Keep work area clean and well lit. Cluttered and dark areas invite accidents.
- b) Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust. Power tools create sparks which may ignite the dust or fumes.
- c) Keep children and bystanders away while operating a power tool. Distractions can cause you to lose control.

2) ELECTRICAL SAFETY

- a) Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools. Unmodified plugs and matching outlets will reduce risk of electric shock.

IMPORTANT SAFETY INSTRUCTIONS

- b) 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.
- c) Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.
- d) Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.
- e) When operating a power tool outdoors, use an extension cord suitable for outdoor use. Use of a cord suitable for outdoor use reduces the risk of electric shock.

3) PERSONAL SAFETY

- a) Stay alert, watch what you are doing and use common sense when operating a power tool.

Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating power tools may result in serious personal injury.
- b) Use safety equipment. Always wear eye protection. Safety equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
- c) Avoid accidental starting. Ensure the switch is in the off position before plugging in. Carrying power tools with your finger on the switch or plugging in power tools that have the switch on invites accidents.
- d) Remove any adjusting key or wrench before turning the power tool on.

A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- e) Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.
- f) Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewellery or long hair can be caught in moving parts.

- g) If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used. Use of these devices can reduce dust related hazards.

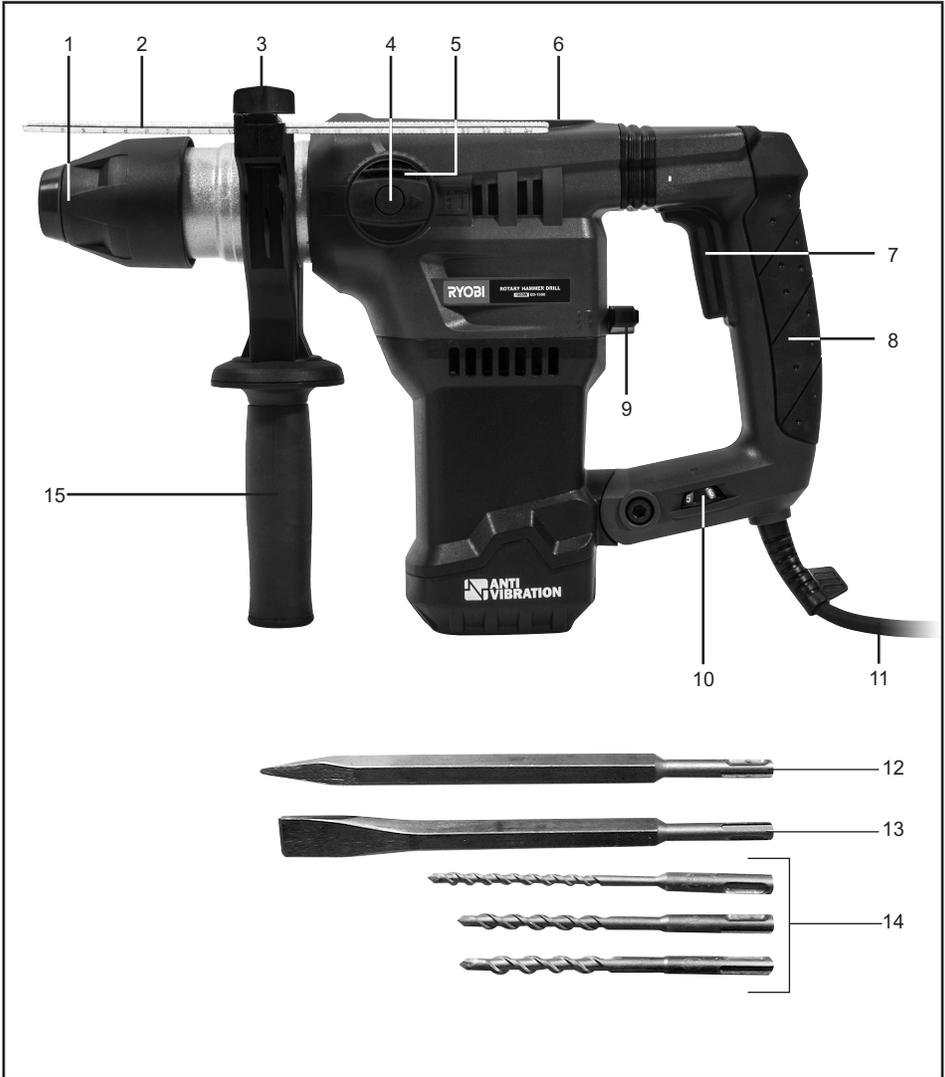
4) POWER TOOL USE AND CARE

- a) Do not force the power tool. Use the correct power tool for your application. The correct power tool will do the job better and safer at the rate for which it was designed.
- b) Do not use the power tool if the switch does not turn it on and off. Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- c) Disconnect the plug from the power source before making any adjustments, changing accessories, or storing power tools. Such preventive safety measures reduce the risk of starting the power tool accidentally.
- d) Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool. Power tools are dangerous in the hands of untrained users.
- e) Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tools operation. If damaged, have the power tool repaired before use. Many accidents are caused by poorly maintained power tools.
- f) Keep cutting tools sharp and clean. Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- g) Use the power tool, accessories and tool bits etc., in accordance with these instructions and in the manner intended for the particular type of power tool, taking into account the working conditions and the work to be performed. Use of the power tool for operations different from intended could result in a hazardous situation.

5) SERVICE

- a) 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.

DESCRIPTION



1. Locking collar
2. Depth stop
3. Depth stop fastening wing screw
4. Function selector
5. Function selector safety lock
6. Greasing point
7. On/Off trigger
8. Handle

9. Hammer/Drill function selector
10. Variable speed dial
11. Power cable
12. SDS point chisel bit
13. SDS flat chisel bit
14. SDS drill bits x 3 (8,10,12mm)
15. Auxiliary handle

UNPACKING



CAUTION. This packaging contains sharp objects. Take care when unpacking. Remove the machine, together with the accessories supplied, from the packaging. Check carefully to ensure that the machine is in good condition and account for all the accessories listed in this manual. Also make sure that all the accessories are complete.

If any parts are found to be missing, the machine and its accessories should be returned together in their original packaging to the retailer. Do not throw the packaging away, keep it safe throughout the guarantee period, then recycle if possible, otherwise dispose of it by the proper means. Do not let children play with empty plastic bags due to the risk of suffocation.

ASSEMBLY

PACKING CONTENTS

- Rotary hammer drill
- Auxiliary handle
- Depth stop
- SDS point chisel bit
- SDS flat chisel bit
- SDS drill bits x 3 (8,10,12mm)
- Carry case
- Operator's manual.



WARNING. If any parts are damaged or missing, do not operate this product until the parts are replaced. Use of this product with damaged or missing parts could result in serious personal injury.



WARNING. Do not connect to power supply until assembly is complete. Failure to comply could result in accidental starting and possible serious personal injury.



WARNING. Do not attempt to modify this product or create accessories not recommended for use with this product. Any such alteration or modification is misuse and could result in a hazardous condition leading to possible serious personal injury.

FITTING SDS BITS

Different drill bits can be used with this product depending on the workpiece material and application required.



WARNING. Always use drill bits according to the intended use. For example, never use a drill bit intended for working on wood for working on stone or vice versa.

Observe the technical requirements of this product (see section "Specification") when purchasing and using drill bits.

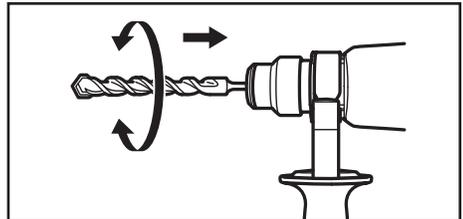


Fig. 1

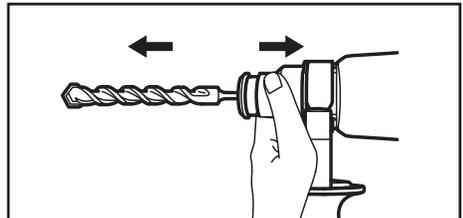


Fig. 2

Some drill bits are very sharp and become hot during use.

Handle them carefully. Wear protective gloves when handling cuts.

INSERTING SDS BITS

Apply a thin coating of grease to the splined drive system (SDS) shank of the drill bit.

Insert the bit into the tool. Turn the bit and push it in until it engages, Fig.1.

After installing, always make sure that the bit is securely held in place by trying to pull it out.

REMOVING SDS BITS

Pull the locking collar backwards and remove the SDS drill bit, Fig.2. Insert a new one as described above, if desired.

ASSEMBLY

USING A CHUCK ADAPTOR (NOT INCLUDED) FOR WOOD AND METAL DRILL BITS



WARNING. Do not use a keyed drill chuck for hammer drilling or chiselling applications! It is intended exclusively for drilling with drill bits for wood and metal.

INSERTING

Note: A keyed drill chuck adaptor allows normal bits (non SDS type) to be used with the product.

To fit a keyed drill chuck adaptor, grip and pull back the locking collar and insert the SDS adaptor of the keyed chuck.

Insert the chuck key (not supplied) into one of the holes on the keyed drill chuck and then turn the key anticlockwise until the tool socket is opened wide enough to insert the drill bit.

Insert the drill bit all the way to the stop.

Insert the chuck key into one of the holes on the keyed drill chuck and then turn the chuck key clockwise until the drill bit is securely fastened and centred in the keyed drill chuck.



WARNING. After short operation, switch the product off, disconnect it from power supply and check once again that the drill bit is properly fastened.

Caution, the drill bit could be hot.

REMOVING

Insert the chuck key into one of the holes on the keyed drill chuck and then turn the chuck key anticlockwise until the tool socket is opened wide enough to pull out the drill bit.

DEPTH STOP (FIG.3)

The depth stop allows the drill bit to enter the work piece to a pre-determined depth. Slacken the depth stop fastening wing screw (3.1) enough to allow the depth stop to be inserted through the locating hole (3.2).

Align the tip of the depth stop with the drill tip. Now pull the depth stop back by the required drilling depth, Fig.4.

Tighten the depth stop fastening wing screw clockwise to fix the depth stop in position.

AUXILIARY HANDLE

This drill is supplied with the auxiliary handle fitted for ease of operation and to help prevent loss of control. The handle can be adjusted for left or right hand use.

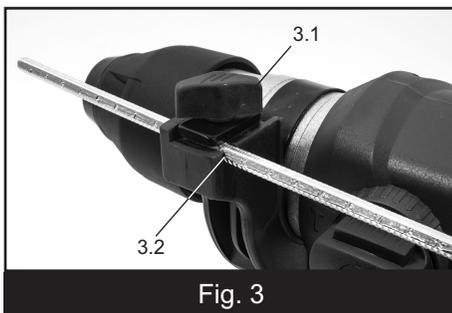


Fig. 3

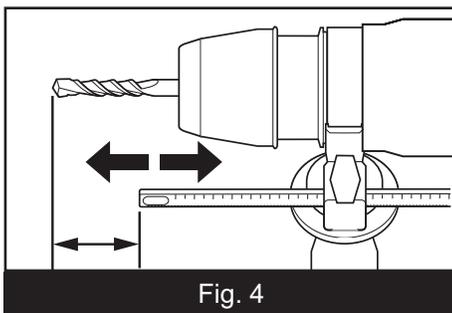


Fig. 4



Fig. 5

Loosen the auxiliary handle by turning the auxiliary handle counterclockwise, Fig.5. Insert the auxiliary handle assembly in the desired operating position. Securely tighten by turning the auxiliary handle clockwise.

Never operate the product without the auxiliary handle to avoid accidents and injury. Always ensure that the auxiliary handle is attached and secured correctly before operation. The auxiliary handle provides better control of the product in case of sudden jams during use when considerable forces are released.

OPERATION



WARNING. Do not allow familiarity with products to make you careless. Remember that a careless fraction of a second is sufficient to inflict injury.



WARNING. Always wear eye protection with side shields marked to comply with ANSI Z87.1. Failure to do so could result in objects being thrown into your eyes, resulting in possible serious injury.



WARNING. Never remove discharge outlet elbow. Removal of elbow could result in contact with moving fan blades and cause serious personal injuries.

CONNECTING TO A POWER SUPPLY

Make sure the on/off switch is in its off position. Connect the plug with a suitable socket.



WARNING. Check the voltage!
The voltage must comply with the information on the rating label.

DRILLING MODES

The Rotary Hammer Drill can be used for three different functions.

1. Drilling wood and metal (using an auxiliary 3 Jaw chuck adaptor)(not supplied).
2. Hammer action (for drilling masonry, brick, concrete and block work.
3. Chiselling action (for light to medium chiselling).

To select the operating mode, press the function selector safety lock and rotate the function selector switch until it points to the symbol of the required mode. Release the safety lock and check that the mode selector switch is locked in place.



WARNING. Do not attempt to change the position of the selector switches when motor is running. Doing this will cause serious damage to the drill and possible injury to the operator.



WARNING. When using the following functions it is advisable to frequently check the position of both selector switches.

DRILLING IN WOOD, METAL & PLASTIC

When the drill is being used with an auxiliary 3 Jaw chuck adaptor (not included) for drilling wood, metal and plastic the function selector switches must be set to the positions shown in Fig.6.

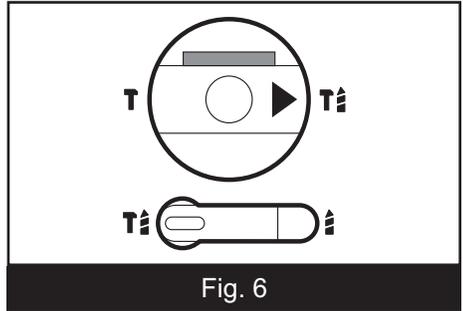


Fig. 6

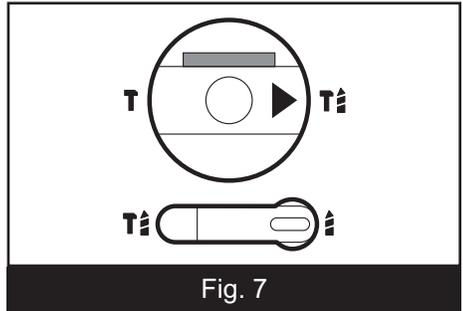


Fig. 7

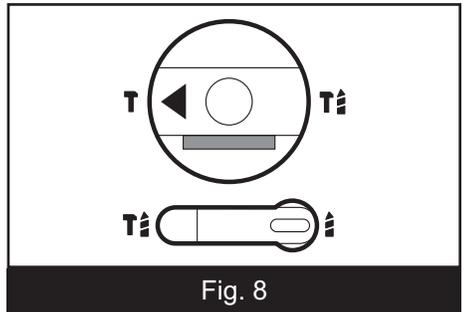


Fig. 8

DRILLING IN MASONRY, BRICK, CONCRETE & BLOCK WORK

When the drill is to be used for drilling masonry, brick, concrete and block work the function selector switches must be set to the positions shown in Fig.7.

CHISELLING IN MASONRY, BRICK, CONCRETE & BLOCK WORK

When the drill is to be used for breaking up masonry, brick, concrete and block work the function selector switches must be set to the positions shown in Fig.8.

OPERATION

NOTE: Hammer drilling mode will damage the tool's mechanism when used for fastening or drilling by non-SDS Plus bits. Select the rotary mode only on such purpose.

When hammer drilling, use only bits with hard metal and SDS shaft only. The use of commercially available masonry bits with cylindrical shaft by means of the drill adaptor is impossible.



CAUTION. When hammer drilling, do not apply too much pressure. Too much pressure will place unnecessary load on the motor.

ON/OFF TRIGGER

To turn the drill ON, depress the switch trigger. To turn it OFF, release the switch trigger, Fig.9.

VARIABLE SPEED (FIG.10)

You can use the variable speed dial to preselect the rotational speed of the drill.

Low rotation speed (Setting 1 or 2)

For tasks requiring careful and precise drilling.

Medium rotation speed (Setting 3 or 4)

For drilling in steel or wood.

High rotation speed (Setting 5 or 6)

For hammer drilling/chiselling in concrete or stone.

GENERAL OPERATION

Check the product, its power cord and plug as well as accessories for damage before each use. Do not use the product if it is damaged or shows wear.

Double check that accessories or drill bits are properly fixed.

Always hold the product by its main handle and auxiliary handle at all times. Keep the handle surfaces dry to ensure safe support.

Ensure that the air vents are always unobstructed and clean. Clean them if necessary with a soft brush. Blocked air vents may lead to overheating and damage the product.

Switch the product off immediately if you are disturbed while working by other people entering the working area. Always let the product come to complete stop before putting it down.

Do not overwork yourself. Take regular breaks to ensure you can concentrate on the work and have full control over the product.

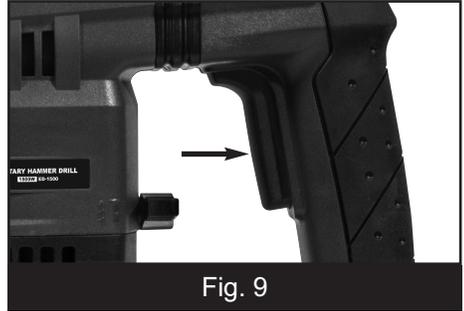


Fig. 9



Fig. 10



WARNING. Keep in mind that there are buried objects hidden in every household. Ensure that there are no gas, water or power lines hidden in the working area that may be hit before operation – danger of electrical shock and serious damage to people and property. Use a suitable detector to trace such objects in advance!

DRILLING

Secure the material to be drilled in a vise or with clamps to keep it from turning as the drill bit rotates.

Hold the drill firmly and place the bit at the point to be drilled.

Depress the switch trigger to start the drill.

Move the drill bit into the workpiece, applying only enough pressure to keep the bit cutting. Do not force the drill or apply side pressure to elongate a hole. Let the tool do the work.

OPERATION



WARNING. Be prepared for binding at bit breakthrough. When these situations occur, drill has a tendency to grab and kick opposite to the direction of rotation and could cause loss of control when breaking through material. If not prepared, this loss of control can result in possible serious injury.

When drilling hard, smooth surfaces, use a center punch to mark the desired hole location.

This will prevent the drill bit from slipping off-center as the hole is started.

When drilling metals, use a light oil on the drill bit to keep it from overheating. The oil will prolong the life of the bit and increase the drilling action.

If the bit jams in the workpiece or if the drill stalls, stop the tool immediately. Remove the bit from the workpiece and determine the reason for jamming.

NOTE: This drill has an electric brake. When the switch trigger is released, the chuck stops turning. When the brake is functioning properly, sparks will be visible through the vent slots on the housing. This is normal and is the action of the brake.

WOOD DRILLING

For maximum performance, use high speed steel bits for wood drilling.

Select drilling mode.

Begin drilling at a very low speed to prevent the bit from slipping off the starting point. Increase the speed as the drill bit bites into the material.

When drilling through holes, place a block of wood behind the workpiece to prevent ragged or splintered edges on the back side of the hole.

METAL DRILLING

For maximum performance, use high speed steel bits for metal or steel drilling.

Select drilling mode.

Begin drilling at a very low speed to prevent the bit from slipping off the starting point.

Maintain a speed and pressure which allows cutting without overheating the bit. Applying too much pressure will:

- Overheat the drill;
- Wear the bearings;

- Bend or burn bits; and
- Produce off-center or irregular-shaped holes.

When drilling large holes in metal, start with a small bit, then finish with a larger bit. Also, lubricate the bit with oil to improve drilling action and increase bit life.

MASONRY DRILLING

For maximum performance, use carbide-tipped masonry impact bits when drilling holes in brick, tile, concrete, etc.

Slide adjustment button on hammer drill left for hammer mode.

Apply light pressure and medium speed for best results in brick.

Apply additional pressure for hard materials such as concrete.

When drilling holes in tile, practice on a scrap piece to determine the best speed and pressure. Begin drilling at a very low speed to prevent the bit from slipping off the starting point.

MAINTENANCE



WARNING. To reduce the risk of injury, turn unit off and disconnect machine from power source before installing and removing accessories, before adjusting or changing set-ups or when making repairs. Be sure the trigger switch is in the OFF position. An accidental start-up can cause injury.



WARNING. Always wear eye protection with side shields marked to comply with ANSI Z87.1. Failure to do so could result in objects being thrown into your eyes resulting in possible serious injury.

GENERAL MAINTENANCE

Avoid using solvents when cleaning plastic parts. Most plastics are susceptible to damage from various types of commercial solvents and may be damaged by their use. Use clean cloths to remove dirt, dust, oil, grease, etc.



WARNING. Do not at any time let brake fluids, gasoline, petroleum based products, penetrating oils, etc., come in contact with plastic parts. Chemicals can damage, weaken or destroy plastic which may result in serious personal injury.

LUBRICATION

Regularly check the gearbox cover. Refill with suitable grease if necessary.

Unscrew the gearbox cover with a 2 pin wrench and remove it (Fig.11).

Fill the gearbox with suitable grease.

Fit the cover back onto the product. Make sure they are properly fastened.

REPAIR

This product does not contain any parts that can be repaired by the consumer. Contact a qualified specialist to have it checked and repaired.



Fig. 11

STORAGE

Clean the product as described.

Store the product and its accessories in a dry, frost-free place.

Always store the product in a place that is inaccessible to children.

The ideal storage temperature is between 10°C and 30°C.

We recommend using the original package for storage or covering the product with a suitable cloth to protect it against dust.

TRANSPORTATION

Switch the product off and disconnect it from power supply before transporting it anywhere.

Attach transportation guards, if applicable.

Always carry the product by its handles.

Protect the product from any heavy impact or strong vibrations which may occur during transportation in vehicles.

Secure the product to prevent it from slipping or falling over.

SERVICE

Now that you have purchased your tool, should a need ever exist of repair or service, simply contact your nearest Ryobi Authorised Service Centre or other qualified service organisation. Be sure to provide all pertinent facts when you call or visit.

SYMBOLS

SYMBOL	SIGNAL	MEANING
	DANGER:	Indicates an imminently hazardous situation, which, if not avoided, will result in death or serious injury.
	WARNING	Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.
	CAUTION	Indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury.
	CAUTION	(Without Safety Alert Symbol) Indicates a situation that may result in property damage.

SYMBOLS

Some of the following symbols may be used on this product. Please study them and learn their meaning. Proper interpretation of these symbols will allow you to operate the product better and safer.

SYMBOL	NAME	DESIGNATION/EXPLANATION
	Safety Alert Symbol	Indicates danger, warning or caution. It means attention!!! Your safety is involved.
	Read Your Operator's Manual	Your manual contains special messages to bring attention to potential safety concerns as well as operating and servicing information. Please read all the information carefully to ensure satisfaction and safe use.
	Wear eye, hearing and head protection	Wear eye, hearing and head protection when operating this equipment.
	Insulation Symbol	Double insulated for additional protection.
	Recycle Symbol	Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your Local Authority or retailer for recycling advice.
	CE Marking	Conforms to relevant safety standards.

WARNING.

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known 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.

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