

HILTI

SR 16

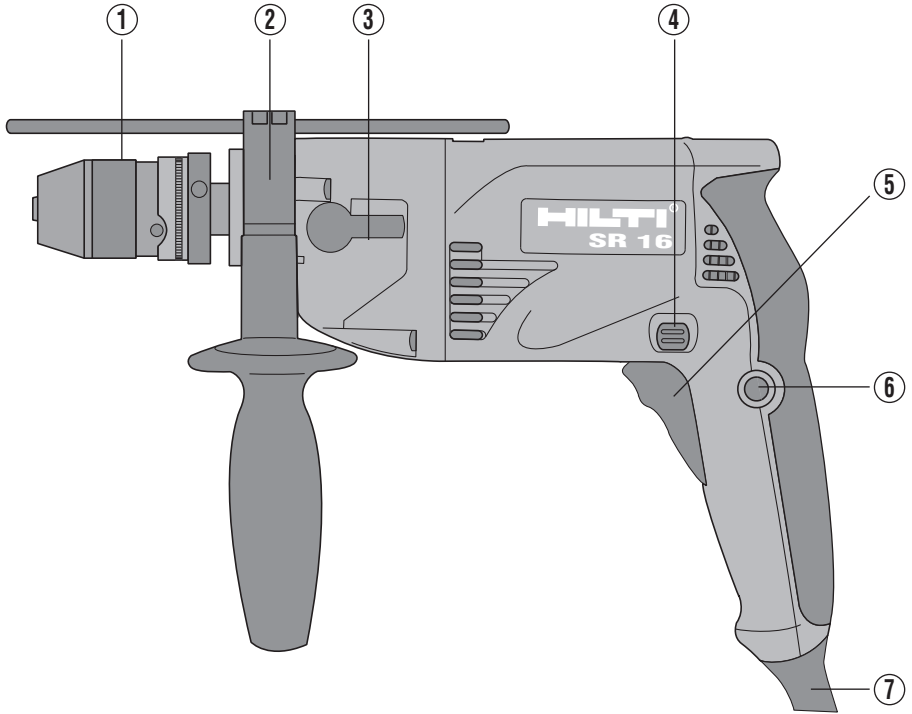
Operating instructions

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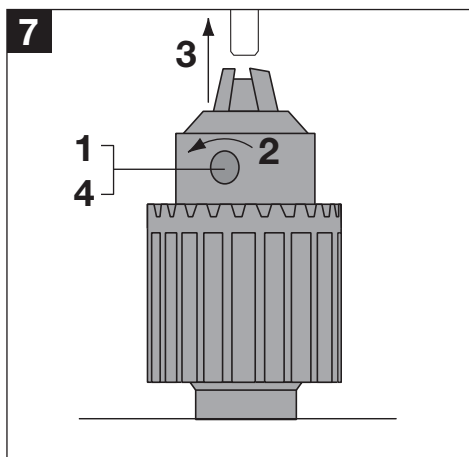
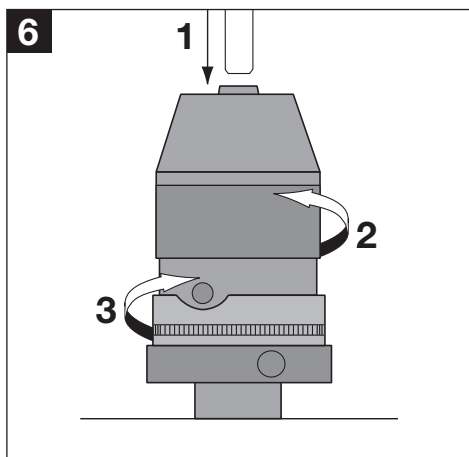
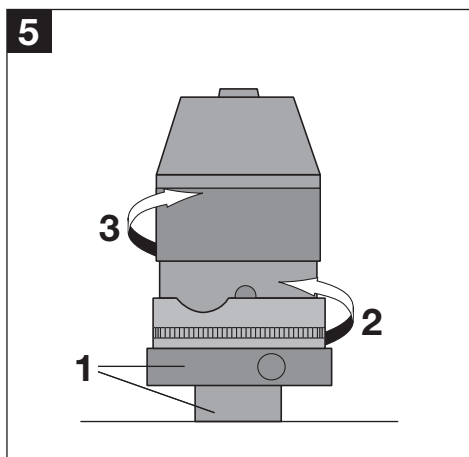
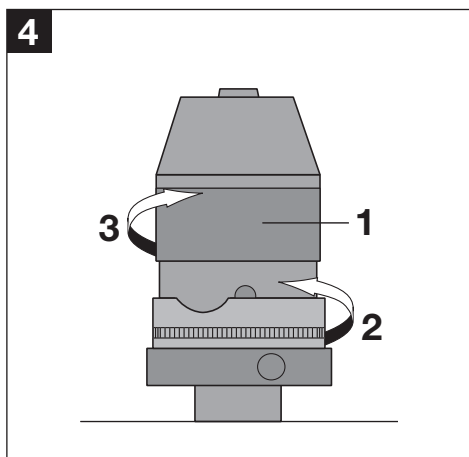
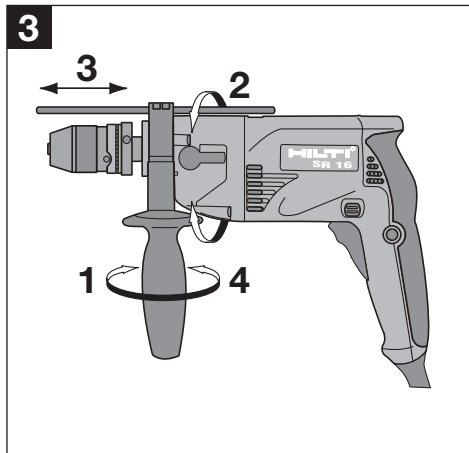
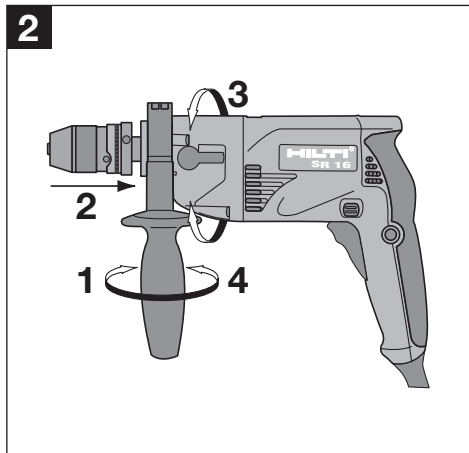
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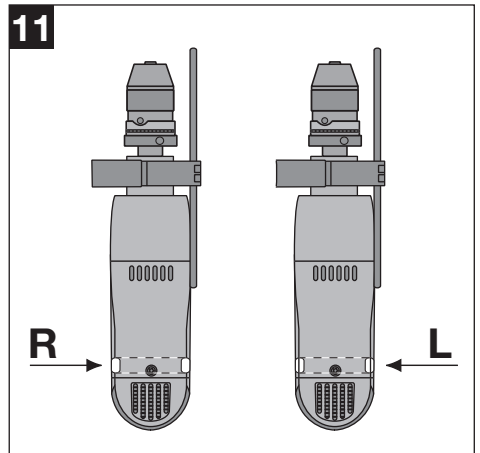
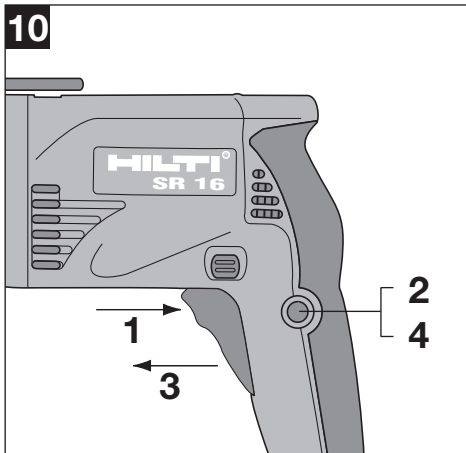
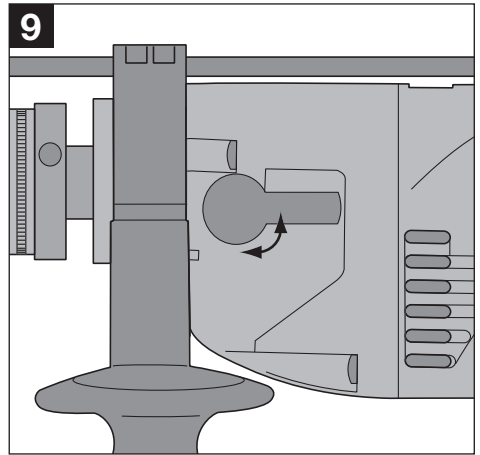
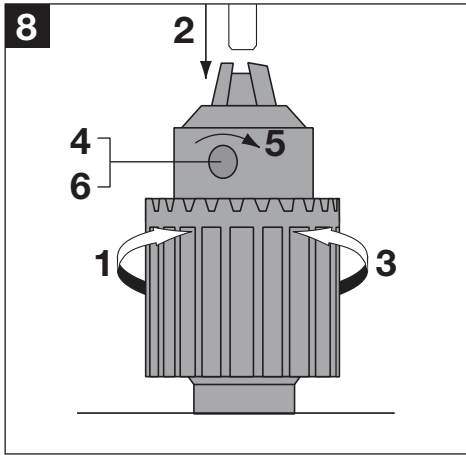
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This Product is Certified
Ce produit est homologué
Producto homologado por
Este producto está registrado







SR 16 electric drill

It is essential that the operating instructions are read before the tool is operated for the first time.

Always keep these operating instructions together with the tool.

Ensure that the operating instructions are with the tool when it is given to other persons.

Operating controls and parts 1

- ① Chuck (quick-release chuck or key-type chuck with key)
- ② Side handle with depth gauge
- ③ 2-speed gear selector switch
- ④ Forward/reverse switch
- ⑤ On/off switch with electronic speed control
- ⑥ Lockbutton for sustained operation
- ⑦ Supply cord

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1. General information

1.1 Safety notices and their meaning

-CAUTION-

Draws attention to a potentially dangerous situation that could lead to minor personal injury or damage to the equipment or other property.

-NOTE-

Draws attention to instructions and other useful information.

1.2 Pictograms

Warning signs



General warning



Warning: electricity



Warning: hot surface

Obligation signs



Wear a hard hat



Wear eye protection



Wear breathing protection



Wear ear protection



Wear protective gloves

Symbols



Read the operating instructions before use.

1 These numbers refer to the corresponding illustrations. The illustrations can be found on the fold-out cover pages. Keep these pages open while studying the operating instructions.

In these operating instructions, the SR 16 electric drill is referred to as "the tool".

Location of identification data on the tool

The type designation can be found on the rating plate and the serial number on the side of the motor housing. Make a note of this data in your operating instructions and always refer to it when making an enquiry to your Hilti representative or service department.

Type: _____

Serial No.: _____

2. General safety rules

1. 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


2. Work Area

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

3. Electrical Safety

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.

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.

Don't 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 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.

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.

4. Personal Safety

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.

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.

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.

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.

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



Use safety equipment. Always wear eye protection. Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.

5. Tool Use and Care

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.

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.

Do not use tool if the switch does not turn it on or off. Any tool that cannot be controlled with the switch is dangerous and must be repaired.

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.

Store idle tools out of reach of children and other untrained persons. Tools are dangerous in the hands of untrained users.

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.

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.

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.

6. Service

Tool service must be performed only by qualified repair personnel. Service or maintenance performed by unqualified personnel could result in a risk of injury.

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.

3. Specific safety rules and symbols

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.

Wear ear protectors when using the tool for extended periods. Prolonged exposure to high intensity noise can cause hearing loss.

3.1 Basic information concerning safety

In addition to the information relevant to safety given in each of the sections of these operating instructions, the following points must be strictly observed at all times.

3.2 Safety precautions at the workplace

- Ensure that the workplace is well ventilated.
- Keep the workplace tidy. Objects which could cause injury should be removed from the working area. Untidiness at the workplace can lead to accidents.
- It is recommended that protective gloves and non-slip shoes are worn when working outdoors.
- Do not allow other persons to tamper with the tool or the supply cord.
- Avoid unfavorable body positions. Work from a secure stance and stay in balance at all times.
- To avoid tripping and falling when working, always lead the supply cord, extension cord and dust extraction hose away to the rear.
- Concealed electric cables or gas and water pipes present a serious hazard if damaged while you are working. Accordingly, check the area in which you are working beforehand (e.g. using a metal detector). External metal parts of the tool may become live, for example, when an electric cable is drilled into inadvertently.

3.3 General safety precautions

- Do not use the tool for purposes for which it was not intended. Use the tool only as directed and when it is in faultless condition.
- Avoid contact with rotating parts.
- Take the influences of the surrounding area into account. Do not expose the tool to rain or snow and do not use it in damp or wet conditions.

- Keep the grips clean, dry and free from oil and grease.
- The side handle must be fitted at all times when the tool is in use.
- Always hold the tool securely with both hands on the grips provided.
- When not in use, the tool must be stored in a dry place, locked up or out of reach of children.
- Switch the tool off before transporting it.
- Take care of your insert tools. Observe the instructions concerning lubrication and changing insert tools.
- Check that moving parts function correctly without sticking and that no parts are damaged. All parts must be fitted correctly and fulfill all conditions necessary for correct operation of the tool.

3.3.1 Mechanical hazards

- Observe the instructions concerning care and maintenance.
- Ensure that the insert tools used are equipped with the appropriate connection end system and that they are properly fitted and secured in the chuck.
- Wear protective gloves when handling sharp insert tools in order to avoid cutting your hands or fingers.

3.3.2 Electrical hazards

- Check the condition of the extension cord and replace it if damage is found.
- Do not touch the supply cord in the event of it suffering damage while working. Disconnect the supply cord plug from the socket.
- Damaged or faulty switches must be replaced at a Hilti service center.
- Have the tool repaired only by a trained electrical specialist (Hilti service center) using original Hilti spare parts. Failure to observe this point may result in risk of accident to the user.
- In the event of a power failure, switch the tool off and unplug the supply cord.

- Avoid using extension cords with multiple sockets and the simultaneous use of several tools connected to one extension cord.
- Never operate the tool when it is dirty or wet. Dust (especially dust from conductive materials) or dampness adhering to the surface of the tool may, under unfavorable conditions, present a risk of electric shock. Dirty or dusty electric tools should thus be checked at a Hilti service center at regular intervals, especially if used frequently for working on conductive materials.

3.3.3 Thermal hazards



Warning: hot surface
Wear protective gloves

- The insert tool may become hot during use. Wear protective gloves when changing insert tools.

3.3.4 Dust

Wear breathing protection.

- Wear breathing protection if the work creates dust.

3.4 Requirements to be met by users

- The tool is intended for professional use.
- The tool may be operated, serviced and repaired only by authorized, trained personnel. This personnel must be informed of any special hazards that may be encountered.

3.5 Personal protective equipment

The user and any other persons in the vicinity must wear suitable eye protection, a hard hat, ear protection and protective gloves when the tool is in use. Breathing protection must be worn if no dust removal system is used.



Wear eye protection



Wear a hard hat.



Wear ear protection.



Wear protective gloves.



Wear breathing protection.

3.6 Symbols used on the tool

- V volts
- W watts
- ~ alternating current
- Hz hertz
- A amperes
- n₀ no load speed
- /min revolutions per minute
- ∅ diameter
- double insulated

4. Functional description

4.1 Use of the tool as intended

The tool is a hand-held, electric mains-powered drill for drilling in wood or metal. It can also be used for driving screws into wood or anchors. Occasional light grinding work, deburring

previously drilled holes or tapping (cutting threads) in metal are also possible applications. The table below lists the tool's drilling diameter ranges and possible applications:

Rotary drilling in metal	Drill bits with smooth shank, 1/16"-1/2" (1.5–13 mm) dia.
Rotary drilling in softwood and particle board	Twist drills up to 1 1/8" (30 mm) dia. Auger bits up to 1 1/4" (32 mm) dia. Forstner drill bits up to 1 1/2" (40 mm) dia. Paddle bits up to 1 1/2" (40 mm) dia. Hole saws up to 2 1/2" (68 mm) dia.
Rotary drilling in hardwood	Twist drills up to 1" (25 mm) dia. Auger bits up to 1 1/8" (30 mm) dia. Forstner drill bits up to 1 1/8" (30 mm) dia. Paddle bits up to 1 1/2" (40 mm) dia. Hole saws up to 1 1/2" (40 mm) dia.
Screwdriving	Drywall screws (Spax screws) 6/300 mm Screws in frame anchors (HRD) 10/50-120 mm Screws in plastic anchors (HUD) 12/60 mm

The tool is designed for use on construction sites where the above types of work are carried out.

The tool may be operated only when connected to a power supply providing a voltage and frequency in compliance with the information given on its rating plate.

Changes or modifications to the tool are not permissible.

Do not use the tool for mixing (with a mixing paddle). Use only the drill bits and screwdriving bits intended for use with this tool.

Observe the information printed in the operating instructions concerning operation, care and maintenance.

The tool and its ancillary equipment may present hazards when used incorrectly by untrained personnel or when used not as directed.

4.2 Chuck

- Quick-release chuck or
- Key-type chuck with key

4.3 Switches

- On/off switch with electronic speed control
- Lockbutton for sustained operation
- 2-speed gear selector switch
- Forward/reverse pushbutton

4.4 Grips


- Adjustable (pivoting) side handle with depth gauge
- Vibration-absorbing grip

4.5 Items supplied as standard

- The electric tool
- Side handle
- Depth gauge
- Chuck (quick-release chuck or key-type chuck with key)
- Operating instructions
- Toolbox or cardboard box (depending on version)

See figure **1** and the explanations of operating controls and parts on page 1.

5. Technical data

Tool	SR 16
Rated power input	600 W
Rated voltage	120 V
Rated current	5.8 A
Mains frequency	50–60 Hz
Weight of tool	4.4 lb (2.0 kg)
Dimensions (L x W x H)	11.6 x 7.7 x 2.8 in (295 x 195 x 72 mm)
Speed under no load	1 st gear 0–750 r.p.m. 2 nd gear 0–1900 r.p.m.
Chuck	$1/24-1/2''$ (1–13 mm) dia.
Max. torque	1 st gear 50 Nm 2 nd gear 20 Nm
Speed control	Electronic control switch (on/off switch)
Forward/reverse	Pushbutton, interlock prevents switching when running
Double insulated	Protection class II 
Vibration absorbing grip and side handle	
Interference immunity	
Right of technical changes reserved!	

6. Assembly



6.1 Fitting the side handle **2**

-NOTE-

The side handle can be removed only when the quick-release chuck is used. The side handle cannot be removed from the tool when the key-type chuck is in use.

1. Release the side handle clamping band by turning the handle in a counter-clockwise direction.
2. Fit the side handle clamping band over the chuck and onto the cylindrical section at the front end of the tool.
3. Pivot the side handle into the desired position.
4. Secure the side handle by turning the handle in a clockwise direction.

7. Operation



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The mains voltage must correspond to the information printed on the rating plate on the tool. Never use the tool without the side handle. Use a vice or clamp to secure loose workpieces.


7.1 Preparing the tool for use

7.1.1 Adjusting the depth gauge **3**

1. Release the side handle clamping mechanism by turning the handle in a counter-clockwise direction.
2. Pivot the side handle into the desired position.
3. Adjust the depth gauge to the desired drilling depth.
4. Tighten the side handle securely by turning the handle in a clockwise direction.

7.2 Operation

	-CAUTION-
	<ul style="list-style-type: none">● Drilling may cause splintering of the material.● Splinters may cause injury to parts of the body and eyes.● Wear eye protection, protective gloves and breathing protection if no dust removal system is used.
	

	-CAUTION-
	<ul style="list-style-type: none">● The tool and the drilling operation emit noise.● Excessive noise may damage the hearing.● Wear ear protection.

7.2.1 Quick-release chuck

-NOTE-

Unplug the supply cord from the mains socket.

Opening the quick-release chuck **4**

1. Grip the chuck sleeve securely.
2. Turn the red ring toward "UNLOCK".
3. Open the quick-release chuck by turning the sleeve until the insert tool can be fitted.

Opening the quick-release chuck when tightened excessively **5**

1. Grip the retaining ring by hand or use a pin to hold it securely (alternatively, use a 17 mm AF open-end wrench to hold the retaining ring securely)

2. Turn the red ring toward "UNLOCK".
3. Open the quick-release chuck by turning the sleeve.

Closing the quick-release chuck **6**

1. Fit the insert tool into the chuck.
2. Tighten the chuck by turning the chuck sleeve firmly.
3. Turn the red ring toward "LOCK" (in this position, the chuck is self-tightening)

-NOTE-

The chuck cannot open inadvertently while the tool is running in reverse rotation.

7.2.2 Key-type chuck

-NOTE-

Use the chuck key supplied for opening and closing the chuck.

Unplug the supply cord from the mains socket.

Opening the key-type chuck **7**

1. Insert the chuck key in one of the three holes provided on the chuck.
2. To open the chuck, turn the key counterclockwise.
3. Remove the insert tool from the chuck.
4. Remove the chuck key.

Closing the key-type chuck **8**

1. Open the chuck sufficiently to allow the shank of the insert tool to be inserted.
2. Fit the insert tool into the chuck.
3. Close the jaws of the chuck by turning the toothed ring until the jaws grip the insert tool.
4. Insert the chuck key in one of the three holes provided on the chuck.
5. Secure the insert tool in the chuck by turning the chuck key clockwise.
6. Remove the chuck key.

7.2.3 2-speed gear selector switch **9**

-NOTE-

Change gear only when rotation has stopped.

The mechanical 2-speed gear selector switch can be used to set the desired speed range:

1st gear = 0–750 r.p.m.

2nd gear = 0–1900 r.p.m.

7.2.4 On/off switch with electronic speed control

The speed can be controlled by pressing the on/off switch gradually until maximum speed is reached.

7.2.5 Lockbutton for sustained operation

The lockbutton is used to lock the on/off switch in the "on" position: the motor then runs constantly (sustained operating mode).

Activating sustained operating mode **10**

1. Press the on/off switch and hold it in this position.
2. Press the lockbutton and hold it in this position.

3. Release the on/off switch.
4. Release the lockbutton.

Deactivating sustained operating mode

1. Press the on/off switch and then release it.

7.2.6 Forwards/reverse rotation **II**

The forwards/reverse pushbutton can be used to select the desired direction of rotation.

-NOTE-

An interlock prevents switching between forward/reverse while the motor is running.

- Push the button to the right = forward rotation
- Push the button to the left = reverse rotation

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8. Care and maintenance

Unplug the supply cord from the mains socket.

8.1 Care of insert tools

Clean off dirt and dust deposits and protect your insert tools from corrosion by wiping them with an oil-soaked rag from time to time.

8.2 Changing the chuck

The quick-release chuck must be tightened to the specified torque of 68 Nm.

The key-type chuck must be tightened to the specified torque of 37–47 Nm and secured with the retaining screw (left-hand thread), inserted between the jaws of the chuck. The retaining screw must be tightened to a torque of 7–11 mm.

8.3 Care of the electric tool

The outer casing of the tool is made from impact-resistant plastic. Sections of the grip are made from a synthetic rubber material.

Never operate the tool when the ventilation slots are blocked. Clean the ventilation slots carefully with a dry brush. Do not permit foreign objects to enter the interior of the tool. Clean the outside of the tool at regular intervals with a slightly damp cloth. Do not use a spray, steam pressure cleaning equipment or running water for cleaning. This may negatively affect the electrical safety of the tool. Always keep the grip surfaces of the tool free from oil and grease. Do not use cleaning agents containing silicone.

8.4 Maintenance

Check all external parts of the tool for damage at regular intervals and check that all controls operate faultlessly. Do not operate the tool if parts are damaged or when the controls do not function faultlessly. If necessary, your electric tool should be repaired at a Hilti repair center.

Repairs to the electrical section of the tool may be carried out only by trained electrical specialists.

8.5 Checks after care and maintenance

After carrying out care and maintenance on the tool, check that all protective equipment has been refitted and that all parts function faultlessly (side handle, chuck tightened to specified torque).

9. Tools and accessories

SR 16	
Chuck	Quick-release chuck
Chuck	Key-type chuck with key

10. Troubleshooting

Fault	Possible cause	Remedy
The tool doesn't start.	Fault in mains supply	Plug in another electric appliance and check whether it works.
	Supply cord or plug defective	Have the cord checked and, if necessary, replaced by an electrical specialist.
	Speed control switch defective	Have it checked and, if necessary, replaced by an electrical specialist.
The tool does not achieve full power.	The extension cord is too long or has inadequate cross section	Use a shorter extension cord or a cord with adequate cross section.
	Speed control switch not fully pressed	Press the speed control switch as far as it will go.
The drill bit makes no progress.	The forward/reverse button is set to reverse rotation.	Set the button to forward rotation.

11. Disposal

Most of the materials from which Hilti electric tools are manufactured can be recycled. The materials must be correctly separated before they can be recycled. In many countries, Hilti has already made arrangements for taking back your old electric tools for recycling. Please ask your Hilti customer service department or Hilti representative for further information.

Should you wish to return the electric tool yourself to a disposal facility for recycling, proceed as follows: Dismantle the electric tool as far as possible without the need for special tools. Use absorbent paper to wipe oily parts clean and to collect any grease that runs out. This paper should also be disposed of correctly. **On no account should grease be allowed to enter the waste water system or to find its way into the ground.**

The individual parts should be separated as follows:

Part/assembly	Part/assembly	Part/assembly
Toolbox	Plastic	Plastics recycling
Gear housing	Plastic	Plastics recycling
Bearing plate	Plastic	Plastics recycling
Grip, side handle	Plastic	Plastics recycling
Motor housing	Plastic	Plastics recycling
Fan	Plastic	Plastics recycling
Motor (rotor and stator)	Steel and copper	Scrap metal
Supply cord	Copper, synthetic rubber	Scrap metal
Gearing parts	Steel	Scrap metal
Screws, small parts	Steel	Scrap metal

12. Manufacturer's warranty – tools

Hilti warrants that the tool supplied is free of defects in material and workmanship. This warranty is valid so long as the tool is operated and handled correctly, cleaned and serviced properly and in accordance with the Hilti Operating Instructions, and the technical system is maintained. This means that only original Hilti consumables, components and spare parts may be used in the tool.

This warranty provides the free-of-charge repair or replacement of defective parts only over the entire lifespan of the tool. Parts requiring repair or replacement as a result of normal wear and tear are not covered by this warranty.

Additional claims are excluded, unless stringent national rules prohibit such exclusion. In particular, Hilti is not obligated for direct, indirect, incidental or consequential damages, losses or expenses in connection with, or by reason of, the use of, or inability to use the tool for any purpose. Implied warranties of merchantability or fitness for a particular purpose are specifically excluded.

For repair or replacement, send tool or related parts immediately upon discovery of the defect to the address of the local Hilti marketing organization provided.

This constitutes Hilti's entire obligation with regard to warranty and supersedes all prior or contemporaneous comments and oral or written agreements concerning warranties.

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