

# HILTI

## TE 500-X

Operating instructions

en

取扱説明書

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사용설명서

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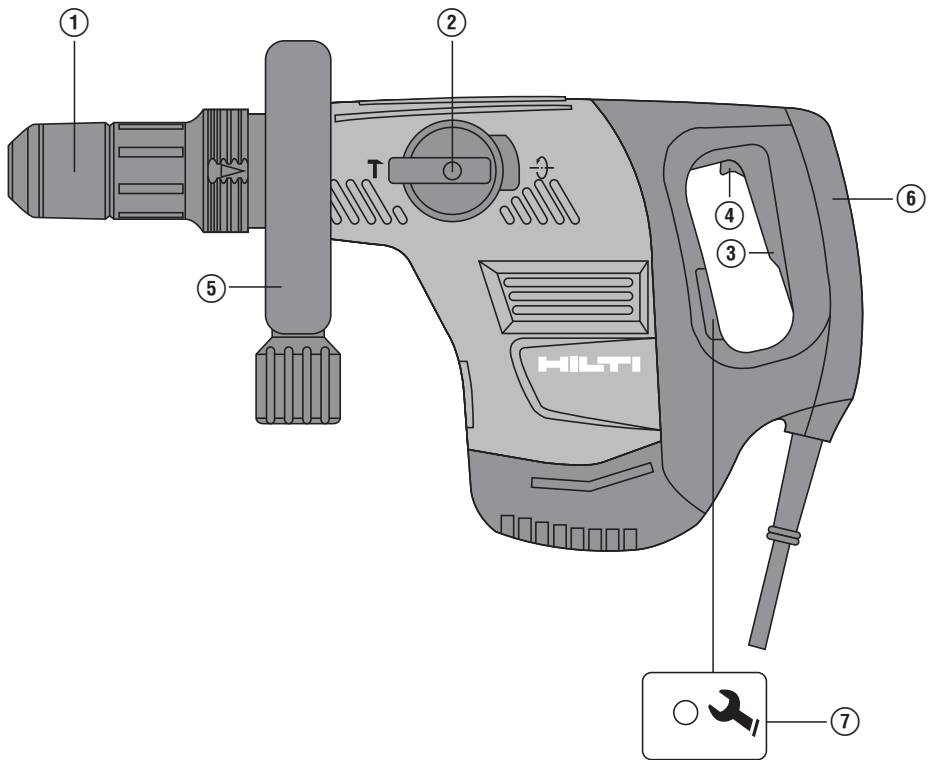
操作說明書

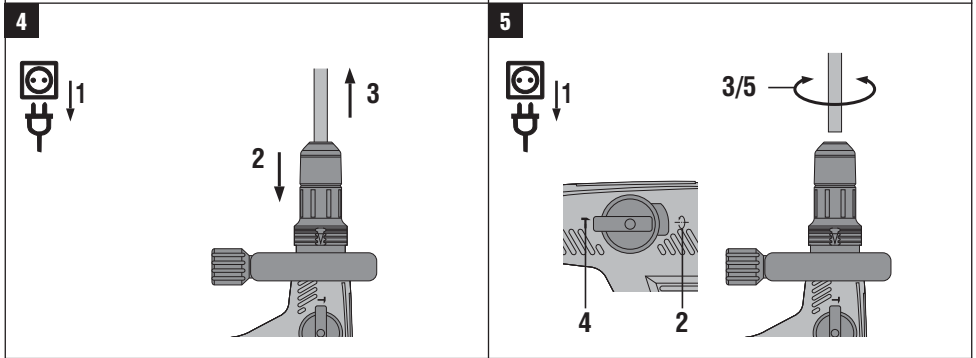
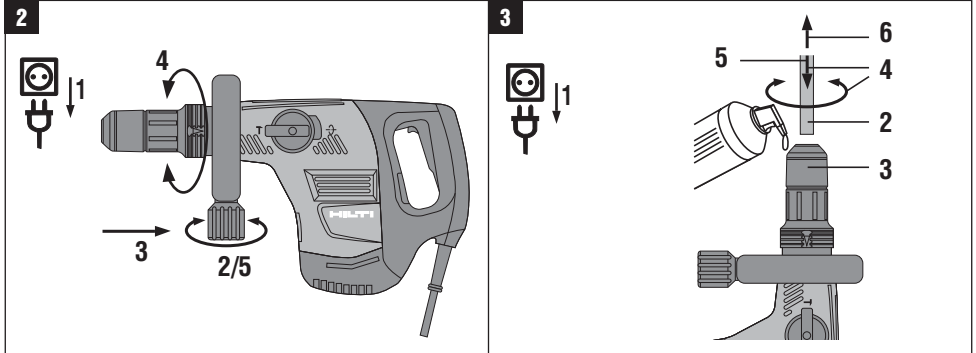
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操作说明书

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# ORIGINAL OPERATING INSTRUCTIONS

## TE 500-X breaker

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

**Always keep these operating instructions together with the power tool.**

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

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**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 designation "the power tool" always refers to the TE 500-X breaker.

### Operating controls and indicators **1**

- ① Chuck
- ② Function selector switch
- ③ Control switch
- ④ Control switch lock (optional)
- ⑤ Side handle (optional)
- ⑥ Rear grip surface
- ⑦ Service indicator

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## 1 General information

### 1.1 Safety notices and their meaning

#### **DANGER**

Draws attention to imminent danger that will lead to serious bodily injury or fatality.

#### **WARNING**

Draws attention to a potentially dangerous situation that could lead to serious personal injury or fatality.

#### **CAUTION**

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

#### **NOTE**

Draws attention to an instruction or other useful information.

### 1.2 Explanation of the pictograms and other information

#### Warning signs



General warning



Warning: electricity



Warning: hot surface

## Obligation signs



Wear eye protection



Wear a hard hat



Wear ear protection



Wear protective gloves



Wear breathing protection

## Symbols



Read the operating instructions before use



Return waste material for recycling.



Chiseling



Chisel position adjustment

V

Volts

A

Amps

W

Watts



Alternating current

Hz

Hertz



Double insulated

## Location of identification data on the power tool

The type designation can be found on the type identification 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 Description

### 2.1 Use of the product as directed

The power tool is an electrically-powered breaker with pneumatic hammering mechanism.

The power tool is designed for medium-duty chiseling on masonry and concrete.

Working on materials hazardous to the health (e.g. asbestos) is not permissible.

The power tool is designed for professional use and may be operated, serviced and maintained only by trained, authorized personnel. This personnel must be informed of any special hazards that may be encountered. The power tool and its ancillary equipment may present hazards when used incorrectly by untrained personnel or when used not as directed.

The working environment may be as follows: construction site, workshop, renovation, conversion or new construction. The power tool may be used only in a dry environment.

Do not use the power tool where there is a risk of fire or explosion.

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

Modification of the power tool or tampering with its parts is not permissible.

To avoid the risk of injury, use only genuine Hilti accessories and insert tools.

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

## 2.2 Chuck

HEX 17 chuck

## 2.3 Switches

Control switch with lock (optional)

Function selector switch:

Chisel adjustment (24 positions)

Chiseling

## 2.4 Grips

Vibration-absorbing grip

Vibration-absorbing, pivotable side handle (optional)

## 2.5 Protective devices

Electronic restart interlock to prevent the power tool starting unintentionally after an interruption in the electric supply (see section 9 "Troubleshooting").

## 2.6 Lubrication

Gearing and hammering mechanism with separate lubrication chambers

## 2.7 LED indicators

Service indicator LED (see section "Care and maintenance")

## 2.8 Items supplied as standard

- 1 Power tool
- 1 Operating instructions
- 1 Hilti toolbox
- 1 Cleaning cloth
- 1 Grease

## 2.9 Using extension cords

Use only extension cords of a type approved for the application and with conductors of adequate cross section. The power tool may otherwise lose performance and the extension cord may overheat. Check the extension cord for damage at regular intervals. Replace damaged extension cords.

### Recommended minimum conductor cross section and max. cable lengths

Conductor cross section	1.5 mm <sup>2</sup>	2.0 mm <sup>2</sup>	2.5 mm <sup>2</sup>	3.5 mm <sup>2</sup>
Mains voltage 100V		30 m		50 m
Mains voltage 110-120 V	20 m	30 m	40 m	
Mains voltage 220-240 V	30 m		75 m	

Do not use extension cords with 1.25 mm<sup>2</sup> conductor cross section.

## 2.10 Using extension cords outdoors

When working outdoors, use only extension cords that are approved and correspondingly marked for this application.

## 2.11 Using a generator or transformer

This power tool may be powered by a generator or transformer when the following conditions are fulfilled: The unit must provide a power output in watts of at least twice the value printed on the type identification plate on the power tool. The operating voltage must remain within +5% and -15% of the rated voltage at all times, frequency must be in the 50 – 60 Hz range and never above 65 Hz, and the unit must be equipped with automatic voltage regulation and starting boost.

Never operate other power tools or appliances from the generator or transformer at the same time. Switching other power tools or appliances on and off may cause undervoltage and / or overvoltage peaks, resulting in damage to the power tool.

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### 3 Consumables

Use the Hilti insert tools listed below. With these insert tools you will achieve higher performance and longer tool life as the power tool and insert tools have been optimized as a system.

TE-H17 chuck (HEX 17)	Width (mm)	Length (mm)	Width (in)	Length (in)
Pointed chisels		280...450		11 ... 17½"
Flat chisel	26	280...450	1"	11 ... 17½"
Wide-flat chisels	50... 80	280...360	2...3"	11 ... 14"
Hollow chisel	22	280	7⁄8"	11"
Channel chisel	36	280	1¾"	11"
Bushing tool	40X40	320	1½"	12½"
Bushing tool	60X60	320	2¼"	12½"
Tamping tool	150X150	320	6"	12½"
Hatsuri chisel		280	11"	

### 4 Technical data

Right of technical changes reserved.

#### NOTE

The power tool is available in various voltage ratings. Please refer to the power tool's type identification plate for details of its rated voltage and rated input power.


Power tool	TE 500-X
Rated power input	1,100 W
Rated current input	Rated voltage 100 V: 13.1 A Rated voltage 110 V: 12.9 A Rated voltage 120 V: 13.1 A Rated voltage 220 V: 5.8 A Rated voltage 230 V: 5.9 A Rated voltage 240 V: 6.0 A
Mains frequency	50... 60 Hz
Weight	5.0 kg
Dimensions (L x W x H)	495 mm x 108 mm x 243 mm
Single impact energy in accordance with EPTA procedure 05/2009	7.5 J

#### Other information about the power tool

Chuck	HEX 17 chuck
Protection class	Protection class II (double insulated)

## 5 Safety instructions

### 5.1 General Power Tool Safety Warnings

- a)  **WARNING**  
Read all safety warnings and all instructions. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury. **Save all warnings and instructions for future reference.** The term “power tool” in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

#### 5.1.1 Work area safety

- a) **Keep work area clean and well lit.** Cluttered or 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.

#### 5.1.2 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.
- 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.
- f) **If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply.** Use of an RCD reduces the risk of electric shock.

#### 5.1.3 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 personal protective equipment. Always wear eye protection.** Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing

protection used for appropriate conditions will reduce personal injuries.

- c) **Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energising power tools that have the switch on invites accidents.
- 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 dust collection can reduce dust-related hazards.

#### 5.1.4 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 and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
- 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 tool's 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, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.



### 5.1.5 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.

### 5.2 Hammer safety warnings

- a) **Wear ear protectors.** Exposure to noise can cause hearing loss.
- b) **Use auxiliary handles, if supplied with the tool.** Loss of control can cause personal injury.
- c) **Hold power tool by insulated gripping surfaces, when performing an operation where the cutting accessory may contact hidden wiring or its own cord.** Cutting accessory contacting a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.

### 5.3 Additional safety instructions

#### 5.3.1 Personal safety

- a) **Always hold the power tool securely with both hands on the grips provided. Keep the grips dry, clean and free from oil and grease.**
- b) **Wear a dust mask.**
- c) **Improve the blood circulation in your fingers by relaxing your hands and exercising your fingers during breaks between working.**
- d) **Always lead the supply cord and extension cord away from the power tool to the rear while working.** This helps to avoid tripping over the cord while working.
- e) **Children must be instructed not to play with the power tool.**
- f) **The power tool is not intended for use by children, by debilitated persons or those who have received no instruction or training.**
- g) **Dust from material such as paint containing lead, some wood species, minerals and metal may be harmful. Contact with or inhalation of the dust may cause allergic reactions and/or respiratory diseases to the operator or bystanders. Certain kinds of dust are classified as carcinogenic such as oak and beech dust especially in conjunction with additives for wood conditioning (chromate, wood preservative). Material containing asbestos must only be treated by specialists. Where the use of a dust extraction device is possible it shall be used. To achieve a high level of dust collection, use a suitable vacuum cleaner of the type recommended by Hilti for wood dust and/or mineral dust together with this tool. Ensure that the workplace is well ventilated. The use of a dust mask of filter class P2 is recommended. Follow national requirements for the materials you want to work with.**

#### 5.3.2 Power tool use and care

- a) **Secure the workpiece. Use clamps or a vice to secure the workpiece.** The workpiece is thus held more securely than by hand and both hands remain free to operate the power tool.

- b) **Check that the insert tools used are compatible with the chuck system and that they are secured in the chuck correctly.**
- c) **Always work from a secure, safe stance.**

### 5.3.3 Electrical safety



- a) **Before beginning work, check the working area (e.g. using a metal detector) to ensure that no concealed electric cables or gas and water pipes are present.** External metal parts of the power tool may become live, for example, when an electric cable is damaged accidentally. This presents a serious risk of electric shock.
- b) **Check the power tool's supply cord at regular intervals and have it replaced by a qualified specialist if found to be damaged. If the power tool's supply cord is damaged it must be replaced with a specially-prepared supply cord available from Hilti Customer Service. Check extension cords at regular intervals and replace them if found to be damaged. Do not touch the supply cord or extension cord if it is damaged while working. Disconnect the supply cord plug from the power outlet. Damaged supply cords or extension cords present a risk of electric shock.**
- c) **Dirty or dusty power tools which have been used frequently for work on conductive materials should be checked at regular intervals at a Hilti Service Center.** Under unfavorable circumstances, dampness or dust adhering to the surface of the power tool, especially dust from conductive materials, may present a risk of electric shock.
- d) **When working outdoors with an electric tool check to ensure that the tool is connected to the electric supply by way of a ground fault circuit interrupter (RCD) with a rating of max. 30 mA (tripping current).** Use of a ground fault circuit interrupter reduces the risk of electric shock.
- e) **Use of a ground fault circuit interrupter (RCD residual current device) with a maximum tripping current of 30 mA is recommended.**

#### 5.3.4 Work area

- a) **Ensure that the workplace is well lit.**
- b) **Ensure that the workplace is well ventilated.** Exposure to dust at a poorly ventilated workplace may result in damage to the health.
- c) **If the work involves breaking right through, take the appropriate safety measures at the opposite side.** Parts breaking away could fall out and / or fall down and injure other persons.

### 5.3.5 Personal protective equipment



The user and any other persons in the vicinity must wear suitable eye protection, a hard hat, ear protec-

tion, protective gloves and breathing protection while the tool is in use.

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## 6 Before use



### CAUTION

Check the insert tool for damage or uneven wear each time before use.

### 6.1 Fitting and adjusting the side handle 2

1. Disconnect the supply cord plug from the power outlet.
2. Release the side handle clamping band by turning the knob.
3. Slide the side handle clamping band over the chuck and onto the cylindrical section at the front end of the power tool.
4. Pivot the side handle into the desired position.
5. Secure the side handle by turning the knob.

### 6.2 Use of extension cords and generators or transformers

Please refer to section 2 "Description".

## 7 Operation



### DANGER

Always hold the power tool securely with both hands on the grips provided. Keep the grips dry, clean and free from oil and grease.

### 7.1 Preparing for use

#### CAUTION

Wear protective gloves when changing insert tools as the insert tools get hot through use and they may have sharp edges.

#### 7.1.1 Fitting the insert tool 3

1. Disconnect the supply cord plug from the power outlet.
2. Check that the connection end of the insert tool is clean and lightly greased. Clean it and grease it if necessary.

3. Check that the sealing lip of the dust shield is clean and in good condition. Clean the dust shield if necessary or have it replaced if the sealing lip is damaged.
4. Push the insert tool into the chuck and rotate it while applying slight pressure until it engages in the guide grooves.
5. Push the insert tool further into the chuck until it is heard to engage.
6. Check that the insert tool has engaged correctly by pulling it.

#### 7.1.2 Removing the insert tool 4

1. Disconnect the supply cord plug from the power outlet.
2. Open the chuck by pulling back the insert tool locking sleeve.
3. Pull the insert tool out of the chuck.

## 7.2 Operation



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### CAUTION

Working on the material may cause it to splinter. **Wear eye protection and protective gloves. Wear breathing protection if no dust removal system is used.** Splintering material presents a risk of injury to the eyes and body.

### CAUTION

The work generates noise. **Wear ear protectors.** Exposure to noise can cause hearing loss.

### 7.2.1 Chiseling

#### NOTE

Working at low temperatures: The hammering mechanism works only when the power tool has reached a minimum operating temperature. Bring the chisel into contact with the base material and allow the power tool to run under no load until the minimum operating temperature is reached. If necessary, repeat this procedure until the hammering mechanism begins to operate.

#### NOTE

The chisel can be adjusted to 24 different positions (in 15° increments). This ensures that flat chisels and

shaped chisels can always be set to the optimum working position.

#### 7.2.1.1 Chisel position adjustment 5

#### CAUTION

Do not operate the power tool when the selector switch is set to "Chisel adjustment".

1. Disconnect the supply cord plug from the power outlet.
2. Turn the function selector switch until it engages in the "Chisel adjustment" position.
3. Rotate the chisel to the desired position.
4. Turn the function selector switch to the "chiseling" position.
5. Rotate the chisel until it engages. Do not operate the function selector switch while the motor is running.

#### 7.2.2 Locking the control switch (optional)

When chiseling, the control switch can be locked in the "on" position.

##### 7.2.2.1 Locking the control switch

1. Press the control switch fully.
2. Press the control switch lock fully. The lock is positioned on the inside of the upper control switch.

**NOTE** The power tool then operates in sustained mode.

##### 7.2.2.2 Resetting the control switch

Press the control switch fully and then release it. The power tool then switches off.

## 8 Care and maintenance

### CAUTION

**Disconnect the mains plug from the power outlet.**

#### 8.1 Care of insert tools

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

#### 8.2 Care of the power tool

#### CAUTION

**Keep the power tool, especially its grip surfaces, clean and free from oil and grease. Do not use cleaning agents which contain silicone.**

#### 8.3 Service indicator

#### NOTE

The power tool is equipped with a service indicator.

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

Never operate the power tool when the ventilation slots are blocked. Clean the ventilation slots carefully using a dry brush. Do not permit foreign objects to enter the interior of the power tool. Clean the outside of the power 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 power tool.

Indicator	Constant red light	End of service interval - servicing is due. After the lamp lights for the first time, the power tool may continue to be used for several hours before the automatic cut-out is activated. To ensure that the power tool is always ready for use, it should be returned to Hilti for servicing in good time.
	Blinking red light	See section "Troubleshooting".

**8.4 Maintenance**

**WARNING**

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

Check all external parts of the power tool for damage at regular intervals and check that all controls operate faultlessly. Do not operate the power tool if parts are

damaged or when the controls do not function faultlessly. If necessary, the power tool should be repaired by Hilti Service.

**8.5 Checking the power tool after care and maintenance**

After carrying out care and maintenance work on the power tool, check that all protective and safety devices are fitted and that they function faultlessly.

**9 Troubleshooting**

Fault	Possible cause	Remedy
The power tool doesn't start.	Interruption in the electric supply.	Plug in another electric appliance and check whether it works.
	The supply cord or plug is defective.	Have it checked by a trained electrical specialist and replaced if necessary.
	Generator with sleep mode.	Apply a load to the generator by connecting another appliance (e.g. a lamp). Subsequently switch the power tool off and on again.
	Other electrical fault.	Have it checked by a trained electrical specialist.
	The electronic restart interlock is activated after an interruption in the electric supply.	Switch the power tool off and on again.
No hammering action.	The power tool is too cold.	Allow the power tool to warm up to the minimum operating temperature. See section: 7.2.1 Chiseling
	A fault has occurred in the power tool.	If necessary, the power tool should be repaired by Hilti Service.
The power tool doesn't start and the LED blinks red.	A fault has occurred in the power tool.	If necessary, the power tool should be repaired by Hilti Service.
The power tool doesn't start and the LED lights red.	The carbon brushes are worn.	Have it checked by a trained electrical specialist and replaced if necessary.
The power tool doesn't achieve full power.	The extension cord's conductor cross section is inadequate.	Use an extension cord with an adequate conductor cross section. (Please refer to "Before use".)
	The control switch is not pressed fully.	Press the control switch as far as it will go.
The chisel can't be released from the chuck.	The chuck is not pulled back fully.	Pull the chuck back as far as it will go and remove the insert tool.

## 10 Disposal



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Most of the materials from which Hilti power tools or appliances 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 power tools or appliances for recycling. Please ask your Hilti customer service department or Hilti representative for further information.

## 11 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 the 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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