

SF 180-A



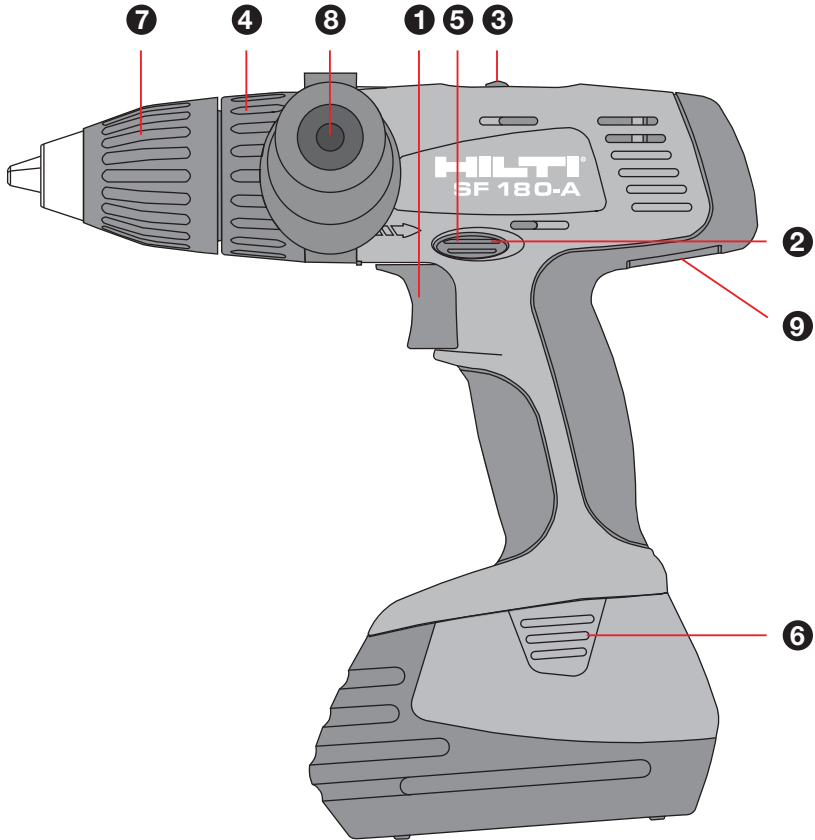
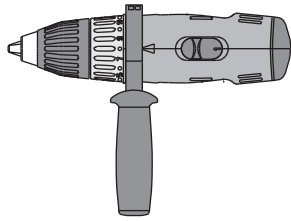
Operating instructions

1- 9



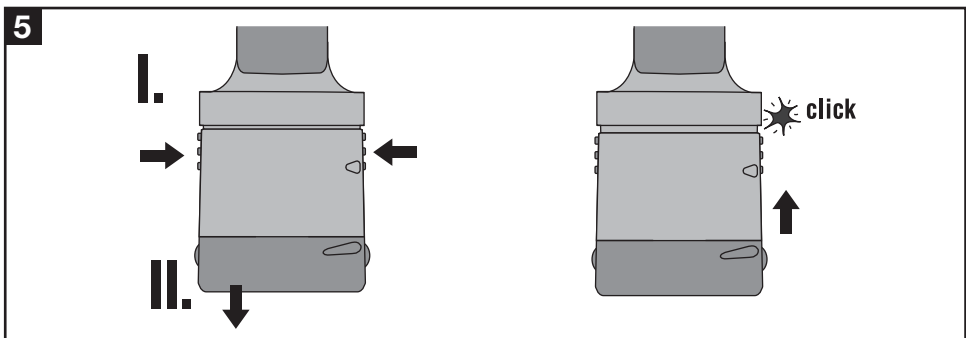
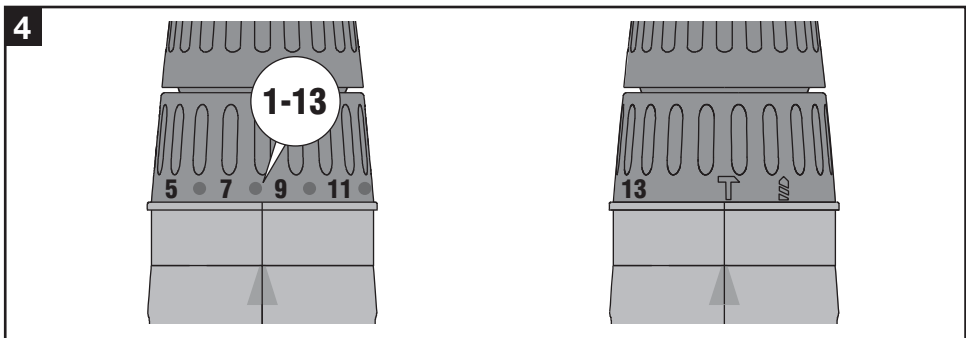
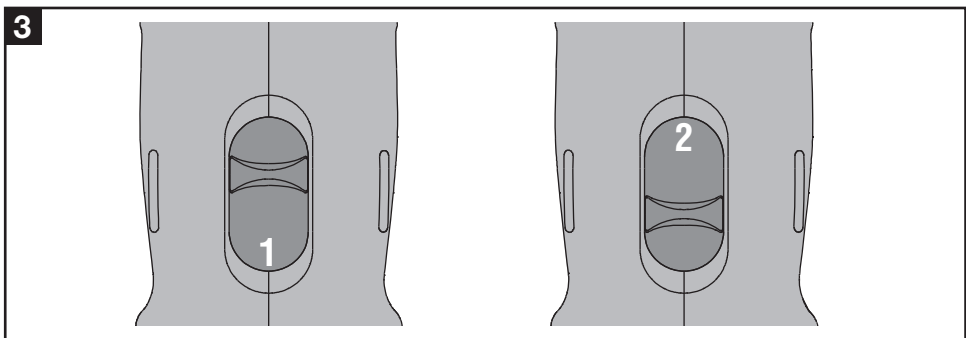
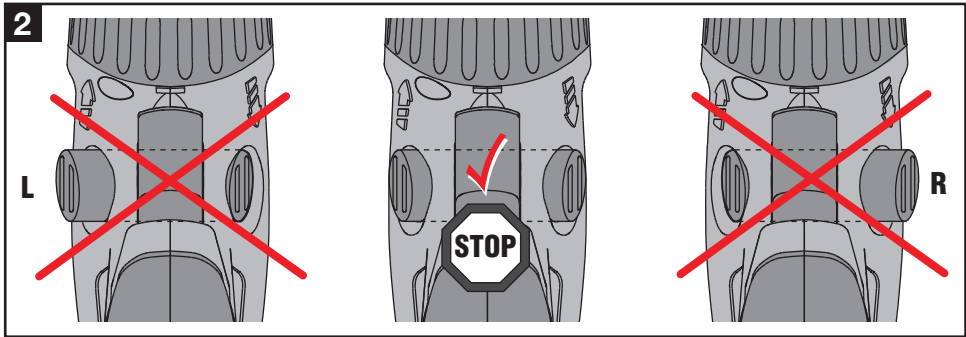
HILTI

1

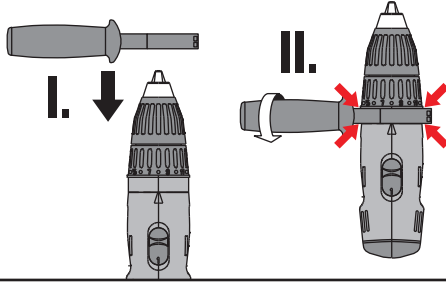


UL listed to US and Canadian safety standards
Homologué UL (conforme aux normes de sécurité américaines et canadiennes)
Producto homologado según normas de seguridad americanas y canadienses
Produto homologado de acordo com as normas de segurança americanas e canadianas

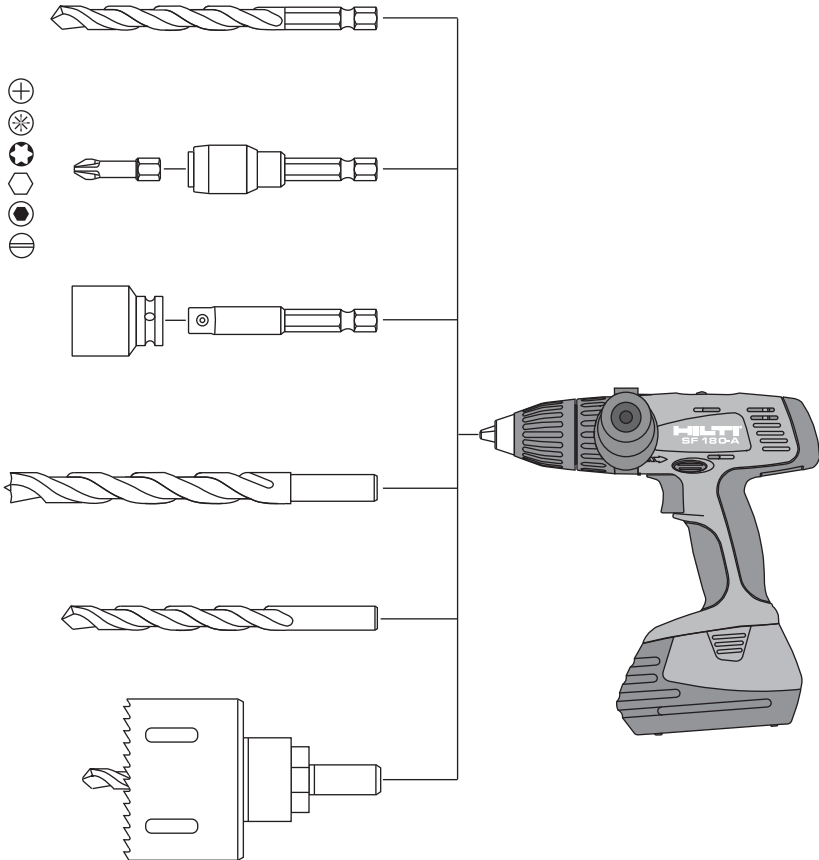




6



7



SF 180-A hammer drill driver

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 Control switch (with electronic speed control)
- 2 Forward / reverse switch
- 3 Gear selector switch
- 4 Torque clutch setting ring
- 5 Motor brake
- 6 Battery release buttons (2)
- 7 Quick release clutch
- 8 Side handle
- 9 Rating plate

Contents	Page
1. General information	1
2. General safety rules	2
3. Specific safety rules and symbols	3
4. Functional description	4
5. Technical data	5
6. Assembly	5
7. Operation	6
8. Care and maintenance	7
9. Tools and accessories	7
10. Troubleshooting	8
11. Manufacturer's warranty – tools	8
12. Disposal	9

1. General information

1.1 Indication of danger

-CAUTION-

Used to draw attention to a potentially dangerous situation which could lead to minor personal injury or damage to the equipment or other property.

-NOTE-

Used to draw attention to an instruction or other useful information. Not used for dangerous situations or where damage to the equipment or property could occur.

1.2 Pictograms

Warning signs



General warning



Warning: electricity



Warning: hot surface



Warning: caustic substances

Obligation signs



Wear eye protection



Wear breathing protection



Wear ear protection



Wear protective gloves

Symbols



Read the operating instructions before use.



Return waste material for recycling.



Do not dispose of batteries with general refuse.

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 SF 180-A hammer drill driver with battery fitted is referred to as "the tool".

Location of identification data on the tool

The type designation, item number, year of manufacture and technical status can be found on the rating plate on the tool. The serial number is located on the left 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

2.1 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.

2.2 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.

2.3 Electrical safety

Do not abuse the cord. Never use the cord to carry the tool. Keep cord away from heat, oil, sharp edges, or moving parts. Replace damaged cords immediately.

Damaged cords may create a fire.

A battery operated tool with integral batteries or a separate battery pack must be recharged only with the specified charger for the battery.

A charger that may be suitable for one type of battery may create a risk of fire when used with another battery.

Use battery operated tool only with specifically designated battery pack.

Use of any other batteries may create a risk of fire.

2.4 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 in the locked or off position before inserting battery pack.

Carrying tools with your finger on the switch or inserting the battery pack into a tool with 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 enable better control of the tool in unexpected situations.

Use safety equipment. Always wear eye protection.

Dust mask, non-skid safety shoes or hearing protection must be used for appropriate conditions.

2.5 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 switch does not turn it on or off.

A tool that cannot be controlled with the switch is dangerous and must be repaired.

Disconnect battery pack from tool or place the switch in the locked or off position 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.

When battery pack is not in use, keep it away from other metal objects like: paper clips, coins, keys, nails, screws, or other small metal objects that can make a connection from one terminal to another.

Shorting the battery terminals together may cause sparks, burns, or a fire.

Maintain tools with care. Keep cutting tools sharp and clean.

Properly maintained insert tools with sharp cutting edge 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 tool's 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 create a risk of injury when used on another tool.

2.6 Service

Tool service must be performed only by qualified repair personnel.

Service or maintenance performed by unqualified personnel may 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 shock or injury.

3. Specific safety rules and symbols

Hold tool by insulating gripping surfaces when performing an operation where the cutting tool may contact hidden wiring.

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 Take the necessary precautions to make the workplace safe

- 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). Avoid contact between your body and earthed / grounded objects, such as pipes or radiators. External metal parts of the tool may become live, for example, when an electric cable is drilled into inadvertently.

- Do not expose the tool to rain or snow.

3.2 Additional general safety precautions

- Keep the grips dry, clean and free from oil and grease.
- Do not touch the chuck while it is rotating.
- Never leave the tool unsupervised.
- Switch the tool on only after bringing it into position at the workpiece.
- Do not insert wires or other similar objects into the ventilation slots.

3.3.1 Mechanical hazards

- Check that the insert tools used are compatible with the chuck system and that they are secured in the chuck or gear housing correctly.
- Use only original Hilti insert tools.

3.3.2 Electrical hazards

- Ensure that the outer surfaces of the battery are clean and dry before inserting it in the corresponding charger.
- Use only the batteries listed in these operating instructions (see section 6).
- Ensure that the battery contacts cannot be short circuited by other metal objects such as screws or nails etc.
- Check that the battery is securely attached to the tool. A falling battery could injure you or other persons.
- Batteries that have reached the end of their life must be disposed of safely (see section 12).
- Ensure that batteries are charged using the correct charger recommended by the manufacturer. Incorrect use may result in a risk of electric shock, overheating or leaking of corrosive liquid from the battery.

3.3.3 Thermal hazards

- The insert tool may become hot during use. You should therefore wear protective gloves when changing insert tools.

3.3.4 Liquids

- A caustic liquid may leak from defective batteries. Avoid contact with this liquid. In the event of contact with the skin, wash the area affected with soap and plenty of water. Should the liquid come into contact with the eyes, flush the eyes with water immediately and subsequently consult a doctor.

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 operator and other persons in the immediate vicinity must always wear eye protection and breathing protection while the tool is in use.

3.6 Symbols used on the tool

- V = volts
— — = direct current
n₀ = no load speed
/min = revolutions per minute
T = hammer drilling
= rotation only

4. Functional description

The SF180-A is a battery-powered hammer drill driver for professional use. The tool is suitable for use by right or left-handed persons. The ergonomically designed rubber-padded grip reduces fatigue and is designed to provide a secure hold.

The items supplied include: Electric tool with side handle, two SFB180 or SFB185 batteries, SFC7/18H or SFC7/18 charger, rigid carrying case.

4.1 Correct use

The SF 180-A is a battery-powered hammer drill driver for the following applications:

- Driving and removing screws
- Drilling in steel and wood
- Hammer drilling in masonry and light concrete

The working environment may be on a construction site or in a workshop and may consist of renovation, conversion or new building work.

Main applications

Spax screws in softwood / chipboard	10×80 mm (0.4×3.2")	*
Screws in plastic anchors	HRD-U 10/50 120	*
Self-drilling screws	S-MD 01 5.5×19 mm	**
Drilling in softwood / chipboard	30 mm (1 1/8" dia.	**
Hole saws	102 mm (4" dia.	*
HSS drill bits	13 mm (1/2" dia.	**

* Speed 1 (low), ** Speed 2 (high)

Important features of the tool

- Vibration-absorbing grip (rubber-padded)
- Smooth speed control
- Gearing and clutch with permanent lubrication (grease)
- Automatic cut-out carbon brushes
- Forward / reverse rotation

5. Technical data

Tool	SF 180-A
Rated voltage	18 V ---
Weight of tool including battery and chuck	2.6 kg (5.7 lbs)
Dimensions (L×H×W)	251×274×83 mm (9.9×10.8×3.3")
Speed	1 st gear: 0– 460 r.p.m. 2 nd gear: 0–1600 r.p.m.
Chuck / clamping dia. range (Quick-release chuck)	1.6–13 mm (0.06–0.5")
Torque	Max. 31 Nm (at drilling setting)
Torque adjustment	2–12 Nm (in 13 increments)
Speed control	Electronic control switch
Forward / reverse	Electrical switch with interlock to prevent activation when running
Spindle lock	When control switch is in the "off" position
Motor brake	By way of the control switch
Gearing section sealed to prevent entry of dust and with permanent lubrication (maintenance-free)	

Battery	SFB 180	SFB 185
Rated voltage	18 V ---	18 V ---
Battery capacity	18 V×2.0 Ah = 36 Wh	18 V×3.0 Ah = 54 Wh
Weight	1.15 kg (2.5 lbs)	1.22 kg (2.7 lbs)
Temperature monitoring	yes	yes
Type of cell	Nickel-cadmium SUB C type	Nickel-metal hydride SUB C type
No. of cells	15	15
Right of technical changes reserved		

6. Assembly

1. It is essential that the safety precautions printed in these operating instructions are read and observed.
2. A new battery must be charged correctly for the first time before use:
 - charged normally for 24 hours with the SFC 7/18 H charger, or
 - charged for 12 hours using the conditioning function of the C 7/24, C 7/36-ACS, SFC 7/18 or TCU 7/36 charger

This will ensure that the cells form correctly. Incorrect initial charging may have a permanent, negative effect on battery capacity.

-NOTE-


- The tool may be used only with SFB 180 or SFB 185 batteries.
- Battery performance drops at low temperatures.
- Batteries should be stored at room temperature.



- Never store batteries where they are exposed to the heat of the sun, on a radiator, behind a motor vehicle windscreen or at a window.
- Never use the battery until the cells become fully discharged. Change to the second battery as soon as a drop in performance is noticed and recharge the battery immediately so that it is ready for re-use.
- Use bits with a standard 1/4" hex. shank.

6.1 Fitting the side handle

1. Open the side handle clamping band by turning the handle.
2. Slide the side handle clamping band over the chuck and onto the tool.
3. Pivot the side handle into the desired position.
4. Secure the side handle by turning the handle.

7. Operation

	-CAUTION-
	<ul style="list-style-type: none"> ■ Noise is emitted by the tool and the screwdriving/drilling/hammer drilling procedure. ■ Excessive noise may damage the hearing. ■ Wear ear protection.

 	-CAUTION-
	<ul style="list-style-type: none"> ■ The screwdriving procedure may cause the material to splinter. ■ Splintering material may cause injury to the body, respiratory passages and the eyes. ■ Wear eye protection and breathing protection.

7.1 Setting forward or reverse rotation

The direction of rotation of the driving spindle can be selected by operating the forward / reverse push switch. An interlock prevents operation of the switch while the motor is running. When in the middle position, the on / off switch is locked.

- Push the forward / reverse switch to the right (tool in the working position) = reverse.
- Push the forward / reverse switch to the left (tool in the working position) = forwards.

7.2 Setting the speed (2-speed gear selector switch)

-CAUTION-

Operate the gear selector switch only when rotation has stopped.

Select position 1 for a speed range of 0–460 r.p.m. or position 2 for a speed range of 0–1600 r.p.m.

7.3 Screwdriving

Set the desired direction of rotation by way of the forward / reverse switch.

7.3.1 Torque setting

Set the torque by turning the torque clutch setting ring to the desired torque setting (1–13).

7.4 Hammer drilling

Turn the torque clutch setting ring to the hammer drilling symbol.

-CAUTION-

Take care to avoid pinching the fingers between the chuck and the setting ring.

7.5 Drilling

Turn the torque clutch setting ring to the drilling symbol.

-CAUTION-

A high torque is experienced if the insert tool sticks while drilling with large-diameter drill bits and hole saws. Accordingly, use the side handle and hold the tool with both hands (one hand on the grip and one hand on the side handle).

7.6 Switching on and off

Should a sticking drill bit cause the motor to stall for longer than 2–3 seconds, the tool must be switched off in order to avoid damage to it.

1. Use the forward / reverse switch to select the direction of rotation.
2. The speed of the tool can be controlled smoothly between zero and maximum by pressing the on / off switch slowly.

7.7 Removing the battery (2-finger operation)

1. Press in both release buttons.
2. Pull the battery downwards out of the tool.

7.8 Fitting the battery

Use only Hilti SFB 180 or SFB 185 batteries.

Push the battery into the tool from below until it is heard to engage.



7.9 Charging the battery

The battery cannot be charged through the belt adaptor. Use only the Hilti C 7/24, C 7/36-ACS, SFC 7/18H, SFC 7/18 or TCU 7/36 charger.

Incorrect use may lead to electric shocks, overheating of the battery or leakage of a caustic liquid from the battery.

Read the operating instructions for the charger before beginning charging.

7.10 Changing the bit

 	-CAUTION-
	<ul style="list-style-type: none"> ■ The insert tool may become hot during use. ■ There is a risk of burning the hands. ■ Wear protective gloves when changing insert tools.

8. Care and maintenance

8.1 Care of insert tools

Remove any dirt adhering to the surface of the insert tools and protect them from corrosion by rubbing them with an oily cloth from time to time.

8.2 Care of the tool

Before cleaning, remove the battery from the tool in order to prevent inadvertent starting.

The outer casing of the tool is manufactured from impact-resistant plastic. The grip comprises a synthetic rubber section.

The ventilation slots must be unobstructed and kept clean at all times. Use a dry brush to clean the ventilation slots carefully. Do not permit foreign objects to enter the interior of the tool. Use a slightly damp cloth to clean the outside of the tool at regular intervals. Do not use a spray, steam-cleaning system or running water for cleaning. This may negatively affect the electrical safety of the tool. Always keep the grip sections of the tool free from oil and grease. Do not use cleaning agents or polishes, etc. containing silicone.

8.3 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 when parts are damaged or when the controls do not operate faultlessly. If necessary, have the tool repaired at a Hilti service center.

Electrical parts of the tool may be repaired only by trained electrical specialists.

8.4 Care of the battery

Keep the electrical contacts free from dust, oil and grease. If necessary, use a clean cloth to clean the contact surfaces.

Do not continue to operate the tool until the battery is completely discharged as this may damage the battery cells. Recharge the battery as soon as a drop in performance is noticed.

At monthly intervals or, at the latest, when battery capacity drops significantly, the battery should be conditioned as follows:

- by charging with the SFC 7/18 H charger for 24 hours in normal charging mode, or
 - by charging with the C 7/24, C 7/36-ACS, SFC 7/18 or TCU 7/36 charger for 12 hours in conditioning mode.
- If, after conditioning, battery capacity is still unsatisfactory, we recommend returning the battery to Hilti for diagnosis.

8.5 Checking the tool after care and maintenance

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

9. Tools and accessories

Magnetic bit holder, long	S-BHP 75M
Philips bit	Phillips Nr. 2
Charger	C 7/24
Charger	C 7/36-ACS
Charger	SFC 7/18
Charger	SFC 7/18 H
Charger	TCU 7/36
Battery	SFB 180 or SFB 185
Toolbox	
Belt adaptor	

10. Troubleshooting

Fault	Possible cause	Remedy
Tool doesn't run	Battery is discharged or not correctly fitted	Refit the battery. It must be heard to engage with an audible "click". Charge the battery if necessary.
	Electrical fault	Remove the battery and contact your nearest Hilti service center.
Tool runs too fast / too slow	Speed selector in wrong position	Move the speed selector switch to the desired position.
No hammering action	Tool set to the wrong mode	Set the tool to hammering mode.
Clutch releases while drilling	Tool set to screwdriving mode	Set the tool to drilling mode.
On / off switch cannot be pressed	Forward / reverse switch is set to middle position	Move the forward / reverse switch to the left/right.
Speed suddenly drops	The battery is almost exhausted.	Stop working with the exhausted battery and charge it fully.
Battery becomes discharged faster than usual	Battery condition is not optimal.	Charge the battery using conditioning mode
Battery does not engage with an audible "click"	Dirt on battery locking mechanism	Clean battery locking mechanism and refit the battery. Contact your nearest Hilti service center if the problem persists.
Tool or battery overheats	Electrical fault	Switch off the tool immediately. Remove the battery and contact your nearest Hilti service center.
	Overload due to exceeding application limit	Select the right tool for the application.
	Drill bit or screw gets stuck	Release the drill bit or screw.
Drill bit or screwdriving bit slips in the chuck	Chuck not tightened correctly	Tighten the chuck securely by applying reasonable force.

11. Manufacturers 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.

12. Disposal

Return waste material for recycling.

Most of the materials from which Hilti power 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 sales representative for further information.

Should you wish to return the electric tool yourself to a disposal facility for recycling, proceed as follows: Dismantle the tool as far as possible without the need for special tools. Use absorbent paper to wipe greasy parts clean and 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 find its way into the ground.**

Separate the individual parts as follows:

Part / assembly	Main material	Recycling
Toolbox	Plastic	Plastics recycling
Outer casing	Plastic / synthetic rubber	Plastics recycling
Electronic switch	Various	Electronics scrap
Motor	Steel, copper	Scrap metal
Gearing parts	Steel	Scrap metal
Battery	Nickel-cadmium Nickel-metal hydride	*
Screws, small parts	Steel	Scrap metal



* Dispose of the battery in accordance with national regulations or return used batteries to Hilti for recycling.

Disposal

Batteries

The Hilti SFB 180 battery has 15 nickel-cadmium cells.

The Hilti SFB 185 battery has 15 nickel-metal hydride cells.

Both you and Hilti bear the responsibility for recycling of the worn-out batteries in keeping with environmental protection requirements.

Important: Do not throw worn-out batteries into household waste, a fire or water. Dispose of the batteries in accordance with national regulations or return them to Hilti.



Hilti Corporation

FL-9494 Schaan

Tel.: +423 / 234 21 11

Fax: +423 / 234 29 65

www.hilti.com