

Einhell®

Ⓞ **Original operating instructions**
Angle grinder

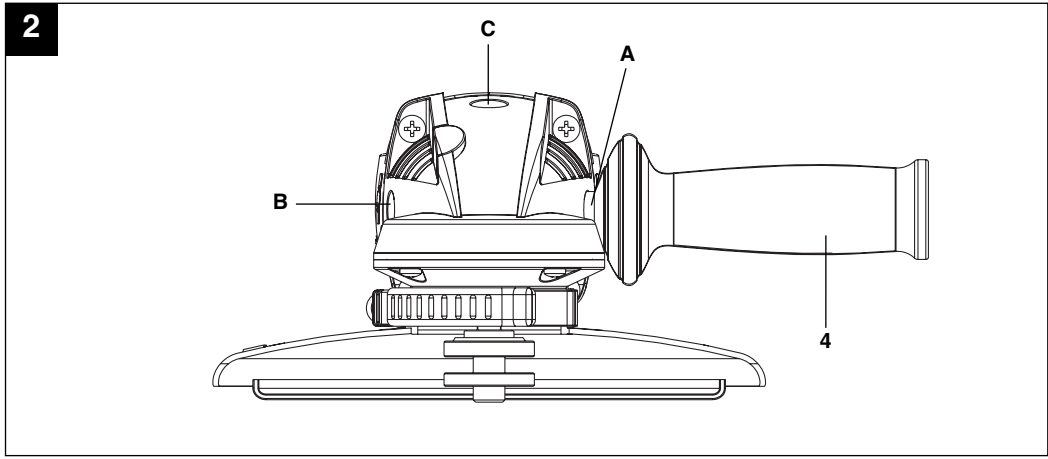
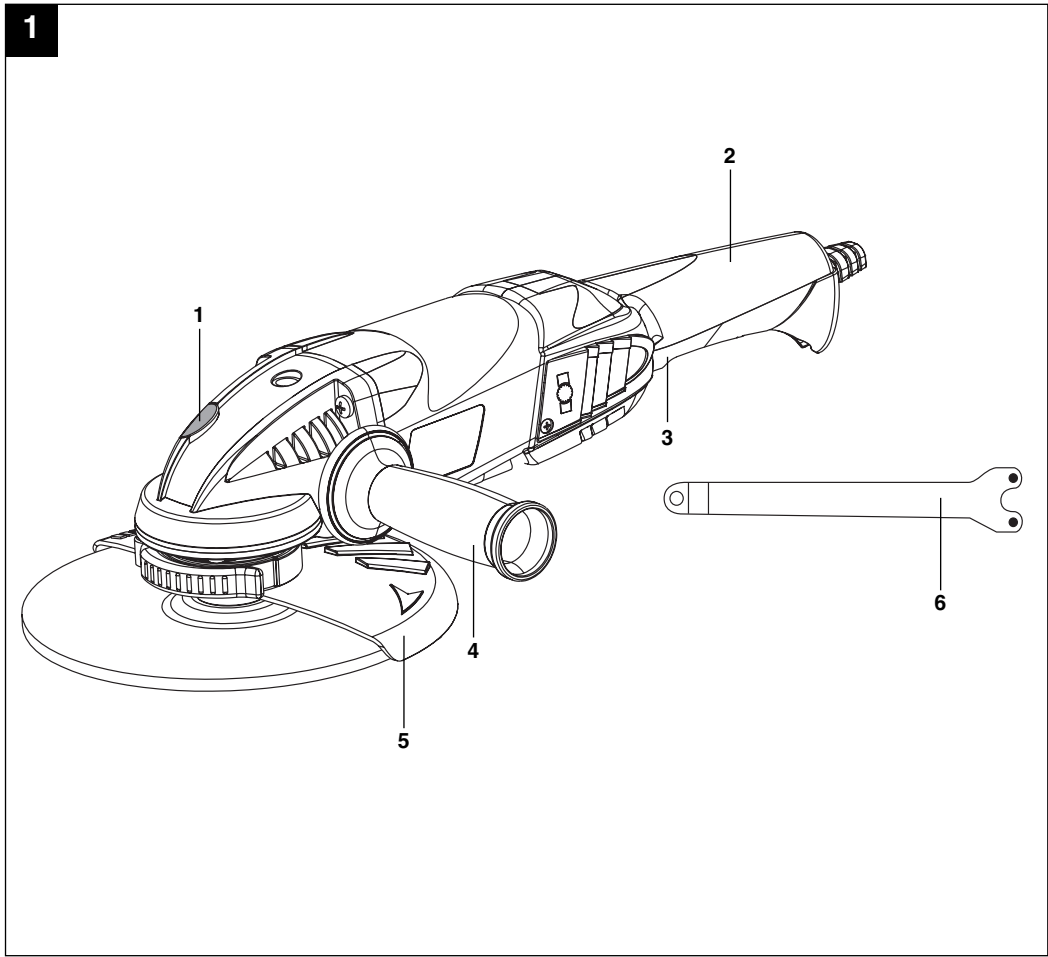
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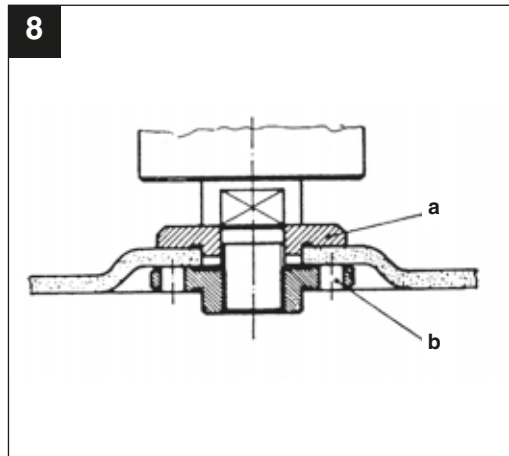
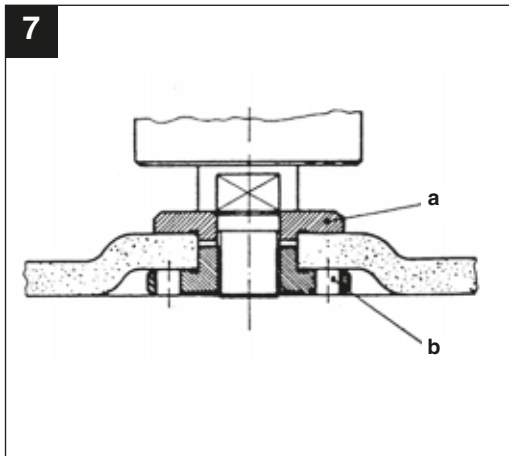
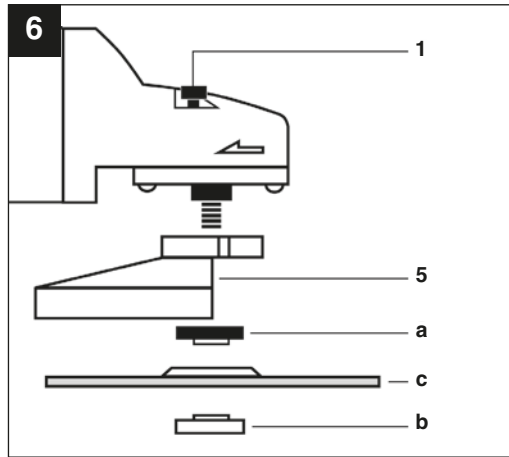
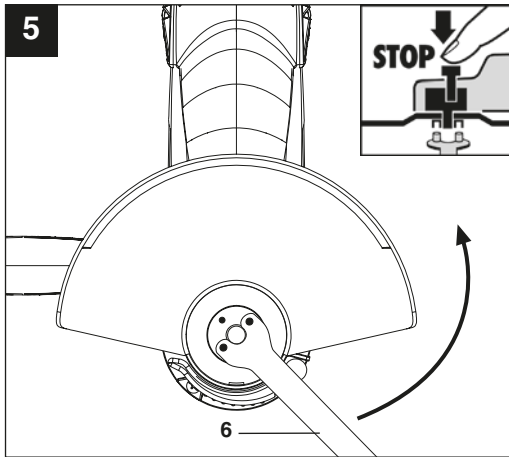
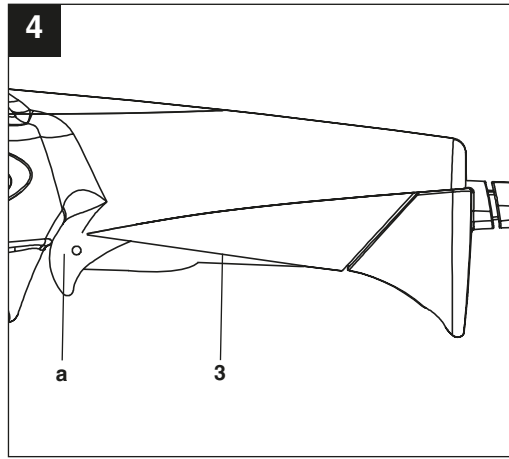
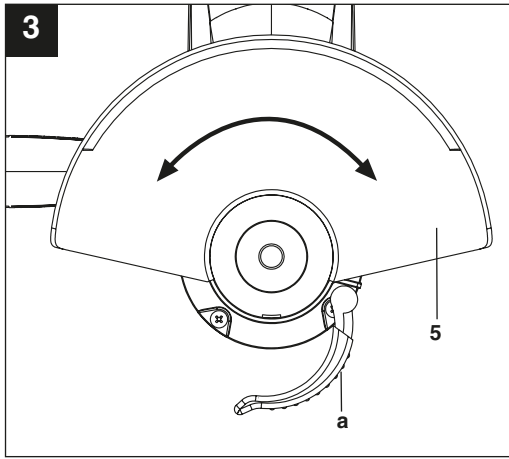
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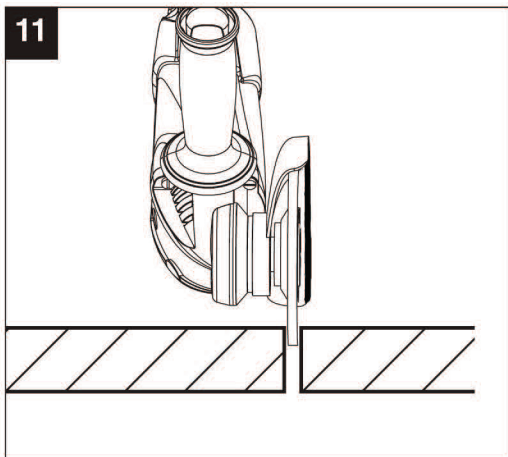
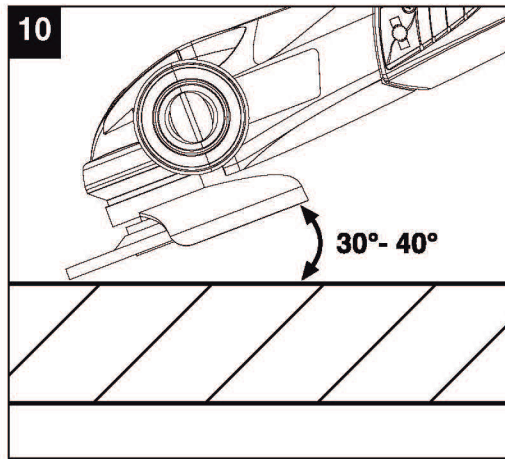
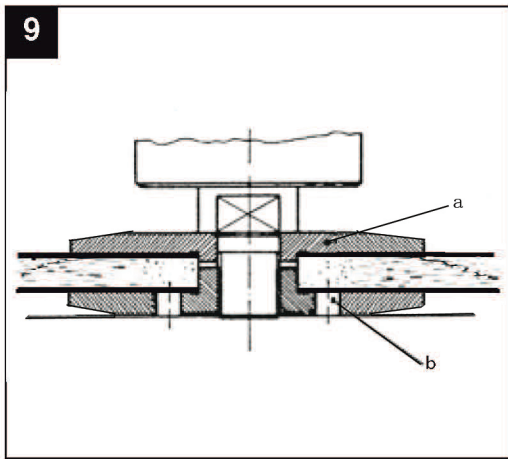
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RT-AG 230



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“Caution - Read the operating instructions to reduce the risk of injury”



Wear ear-muffs.

The impact of noise can cause damage to hearing.



Wear a breathing mask.

Dust which is injurious to health can be generated when working on wood and other materials. Never use the device to work on any materials containing asbestos!



Wear safety goggles.

Sparks generated during working or splinters, chips and dust emitted by the device can cause loss of sight.



This safety guard is designed for grinding.



This safety guard is designed for cutting and grinding.

⚠ Important!

When using equipment, a few safety precautions must be observed to avoid injuries and damage. Please read the complete operating manual with due care. Keep this manual in a safe place, so that the information is available at all times. If you give the equipment to any other person, give them these operating instructions as well. We accept no liability for damage or accidents which arise due to non-observance of these instructions and the safety information.

1. Safety information

Please refer to the booklet included in delivery for the safety instructions.

⚠ CAUTION!

Read all safety regulations and instructions. Any errors made in following the safety regulations and instructions may result in an electric shock, fire and/or serious injury. Keep all safety regulations and instructions in a safe place for future use.

2. Layout (Fig. 1)

1. Spindle lock
2. Handle
3. ON/OFF switch
4. Additional handle
5. Guard
6. Flange nut wrench

3. Items supplied

- Open the packaging and take out the equipment with care.
- Remove the packaging material and any packaging and/or transportation braces (if available).
- Check to see if all items are supplied.
- Inspect the equipment and accessories for transport damage.
- If possible, please keep the packaging until the end of the guarantee period.

IMPORTANT

The equipment and packaging material are not toys. Do not let children play with plastic bags, foils or small parts. There is a danger of swallowing or suffocating!

- Original operating instructions
- Safety instructions

4. Proper use

The angle grinder is designed for grinding metal and stone when using the appropriate grinding wheel and guard.

Caution! To cut metal and stone the grinder may only be used when the guard is mounted.

The machine is to be used only for its prescribed purpose. Any other use is deemed to be a case of misuse. The user / operator and not the manufacturer will be liable for any damage or injuries of any kind caused as a result of this.

Please note that our equipment has not been designed for use in commercial, trade or industrial applications. Our warranty will be voided if the machine is used in commercial, trade or industrial businesses or for equivalent purposes.

5. Technical data

Mains voltage:	230 V ~ 50 Hz
Power input:	2300 W
Idling speed:	6500 min ⁻¹
Rated wheel diameter:	230 mm
Protection class:	II / □
Weight:	5.8 kg

Sound and vibration

Sound and vibration values were measured in accordance with EN 60745.

L _{pA} sound pressure level	96 dB(A)
K _{pA} uncertainty	3 dB
L _{WA} sound power level	112 dB(A)
K _{WA} uncertainty	3 dB

Wear ear-muffs.

The impact of noise can cause damage to hearing.

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Total vibration values (vector sum of three directions) determined in accordance with EN 60745.

Surface grinding

Vibration emission value $a_{hAG} = 3.1 \text{ m/s}^2$

K uncertainty = 1.5 m/s^2

Additional information for electric power tools

Warning!

The specified vibration value was established in accordance with a standardized testing method. It may change according to how the electric equipment is used and may exceed the specified value in exceptional circumstances arranging the flanges.

The specified vibration value can be used to compare the equipment with other electric power tools.

The specified vibration value can be used for initial assessment of a harmful effect.

Keep the noise emissions and vibrations to a minimum.

- Only use appliances which are in perfect working order.
- Service and clean the appliance regularly.
- Adapt your working style to suit the appliance.
- Do not overload the appliance.
- Have the appliance serviced whenever necessary.
- Switch the appliance off when it is not in use.
- Wear protective gloves.

Residual risks

Even if you use this electric power tool in accordance with instructions, certain residual risks cannot be ruled out. The following hazards may arise in connection with the equipment's construction and layout:

1. Lung damage if no suitable protective dust mask is used.
2. Damage to hearing if no suitable ear protection is used.
3. Health damage caused by hand-arm vibrations if the equipment is used over a prolonged period or is not properly guided and maintained.

6. Before starting the equipment

Before you connect the equipment to the mains supply make sure that the data on the rating plate are identical to the mains data.

6.1 Fitting the additional handle (Fig. 2)

- The angle grinder must not be used without the additional handle (4).
- The additional handle can be secured in any of three positions (A, B, C).

Tool side	Suitable for
Left (position A / as shown)	Right-handed users
Right (position B)	Left-handed users
Top (position C)	Using cutting wheels

6.2 Setting the guard (Fig. 3)

- Switch off the tool. Pull the power plug.
- For grinding attach the provided grinding guard shown in Fig. 12.
- For cutting attach the provided cutting guard shown in Fig. 13.
- **Important!** Never have the discharge side facing towards you. Adjust the guard (5) in a way that best protects your hands so that the material being ground is directed away from your body.
- The position of the guard (5) can be adjusted to any specific working conditions. Undo the clamp handle (a) and turn the cover (5) into the required position.
- Ensure that the guard (5) correctly covers the gear wheel casing.
- Secure the clamp handle (a) again.
- Ensure that the guard (5) is secure.

⚠ Take care that the safety device is secure.

⚠ **Never use the angle grinder without the guard.**

6.3 TEST RUN FOR NEW GRINDING WHEELS

Allow the right-angle grinder to run in idle for at least 1 minute with the grinding or cutting wheel fitted in place. Vibrating wheels are to be replaced immediately.

7. Operation

7.1 SWITCH (Fig. 4)

- The ON/OFF switch (3) has a locking switch (a) to prevent the tool being started by accident.
- To start the equipment push the locking switch (a) forwards, then press the ON/OFF switch (3).

⚠ Wait until the machine has reached its top speed. You can then position the angle grinder on the workpiece and machine it.

7.2 Changing the grinding wheels (Fig. 5)

Use the face spanner (6) supplied to change the grinding wheels.

Pull out the power plug.

- Simple wheel change by spindle lock:
- Press the spindle lock and allow the grinding wheel to latch in place.
- Open the flange nut with the face spanner. (Fig. 5)
- Change the grinding or cutting wheel and tighten the flange nut with the face spanner.

⚠ Important!

Only ever press the spindle lock when the motor and grinding spindle are at a standstill! You must keep the spindle lock pressed while you change the wheel!

For grinding or cutting wheels up to approx. 3 mm thick, screw on the flange nut with the flat side facing the grinding or cutting wheel.

7.3 Flange arrangements when using grinding wheels and cutting wheels (Fig. 6-9)

- Flange arrangement when using a depressed-centre or straight grinding wheel (Fig. 7)
 - 1) Ø 42 mm clamping flange (a)
 - 2) Ø 42 mm flange nut (b)
- Flange arrangement when using a depressed-centre cutting wheel (Fig. 8)
 - 1) Ø 42 mm clamping flange (a)
 - 2) Ø 42 mm flange nut (b)
- Flange arrangement when using a straight cutting wheel (Fig. 9)
 - 1) Ø 98 mm clamping flange (a)
 - 2) Ø 98 mm flange nut (b)

7.4 MOTOR

It is vital for the motor to be well ventilated during operation. Be sure, therefore, to keep the ventilation holes clean at all times.

7.5 GRINDING WHEELS

- Never use a grinding or cutting wheel bigger or smaller than the specified diameter.
- Before using a grinding or cutting wheel, check its rated speed.
- The wheel's rated speed must be higher than the idle speed of the right-angle grinder.
- Use only grinding and cutting wheels that are approved for a minimum speed of 6,500 rpm and a peripheral speed of 80 m/sec.
- Check the direction of rotation when you use diamond cutting wheels. The directional arrow on the diamond cutting wheel must point in the direction in which the tool rotates.

Take special care that the grinding wheels are properly stored and transported. Ensure that the grinding wheels are never exposed to shock, jolts or sharp edges (for example during transport or storage in a toolbox). This could cause damage (such as cracks) to the grinding wheels and place the user in serious danger.

7.6 OPERATING MODES

7.6.1 Rough grinding (Fig. 10)

⚠ Caution: Use the safety device for grinding.

For the best rough grinding results, hold the grinding wheel at an angle of between 30° and 40° to the workpiece surface and guide back and forth over the workpiece in steady movements.

7.6.2 Cutting (Fig. 11)

⚠ Caution: Use the safety device for abrasive cutting.

When you use the right-angle grinder for cutting purposes, avoid tilting it in the cutting plane. The cutting wheel must have a clean cutting edge. A diamond cutting wheel is best used to cut hard stone.

⚠ It is prohibited to use the machine on asbestos materials!

⚠ Never use a cutting wheel for rough grind

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8. Replacing the power cable

If the power cable for this equipment is damaged, it must be replaced by the manufacturer or its after-sales service or similarly trained personnel to avoid danger.

9. Cleaning, maintenance and ordering of spare parts

Always pull out the mains power plug before starting any cleaning work.

9.1 Cleaning

- Keep all safety devices, air vents and the motor housing free of dirt and dust as far as possible. Wipe the equipment with a clean cloth or blow it with compressed air at low pressure.
- We recommend that you clean the device immediately each time you have finished using it.
- Clean the equipment regularly with a moist cloth and some soft soap. Do not use cleaning agents or solvents; these could attack the plastic parts of the equipment. Ensure that no water can seep into the device.

9.2 Carbon brushes

In case of excessive sparking, have the carbon brushes checked only by a qualified electrician. Important! The carbon brushes should not be replaced by anyone but a qualified electrician.

9.3 Maintenance

There are no parts inside the equipment which require additional maintenance.

9.4 Ordering replacement parts

Please quote the following data when ordering replacement parts:

- Type of machine
- Article number of the machine
- Identification number of the machine
- Replacement part number of the part required

For our latest prices and information please go to www.einhell.com.au

10. Storage

Store the equipment and accessories out of children's reach in a dark and dry place at above freezing temperature. The ideal storage temperature is between 5 and 30 °C. Store the electric tool in its original packaging.

11. Disposal and recycling

The unit is supplied in packaging to prevent its being damaged in transit. This packaging is raw material and can therefore be reused or can be returned to the raw material system.

The unit and its accessories are made of various types of material, such as metal and plastic. Defective components must be disposed of as special waste. Ask your dealer or your local council.

The guarantee provided in this Guarantee Certificate is given by Einhell Australia Pty Limited
ACN 134 632 858 of 6/166 Wellington Street, Collingwood, Victoria (Telephone number 1300 922 271)
(Einhell Express Guarantee).

GUARANTEE CERTIFICATE

Dear Customer,

All of our products undergo strict quality checks. In the unlikely event that your device develops a fault, please contact our service department at the address shown on this guarantee certificate. Of course, if you would prefer to call us then we are also happy to offer our assistance under the service number printed below. Please note the following terms under which claims under the Einhell Express Guarantee can be made:

1. The benefits conferred by the Einhell Express Guarantee are in addition to all rights and remedies which you may be entitled to under the Australian Consumer Law, and any other statutory rights you may have under other applicable laws. This Einhell Express Guarantee does not exclude, restrict or modify any such rights or remedies.

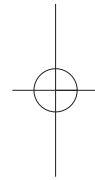
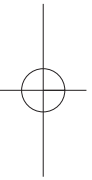
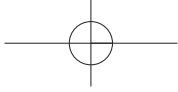
We do not charge you for the Einhell Express Guarantee.

2. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.
3. The Einhell Express Guarantee only covers problems caused by material or manufacturing defects, and our liability under the Einhell Express Guarantee is limited, at our discretion, to the rectification of these defects or replacement of the product. Please note that the product has not been designed for use in commercial, trade or industrial applications. Consequently, the Einhell Express Guarantee will not apply if the product is used in commercial, trade or industrial applications or for other equivalent activities.
4. The following are also excluded from the Einhell Express Guarantee: compensation for transport damage, damage caused by failure to comply with the installation/assembly instructions or damage caused by unprofessional installation, failure to comply with the operating instructions (e.g. connection to the wrong mains voltage or current type), misuse or inappropriate use (such as overloading of the product or use of non-approved tools or accessories), failure to comply with the maintenance and safety regulations, ingress of foreign bodies into the product (e.g. sand, stones or dust), effects of force or external influences (e.g. damage caused by the product being dropped) and normal wear resulting from proper operation of the product. The Einhell Express Guarantee will also not apply if any attempt is made to tamper with the product.
5. The Einhell Express Guarantee is valid for a period of 2 years starting from the purchase date of the product. Claims made under the Einhell Express Guarantee should be submitted before the end of this guarantee period and within two weeks of the defect being noticed. No claims under the Einhell Express Guarantee will be accepted if submitted after the end of this guarantee period. The original guarantee period remains applicable to the device even if repairs are carried out or parts are replaced. In such cases, the work performed or parts fitted will not result in an extension of the guarantee period for the Einhell Express Guarantee, and the Einhell Express Guarantee will not apply for the work performed or parts fitted. This also applies when an on-site service is used.
6. To make a claim under the Einhell Express Guarantee, please send the relevant product postage-free to the address shown below and enclose either the original or a copy of your sales receipt or another dated proof of purchase. It would help us if you could describe the nature of the problem in as much detail as possible. If the defect is covered by the Einhell Express Guarantee, your product will be repaired immediately and returned to you, or we will send you a new device (at our election).

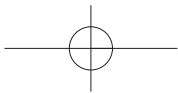
Any costs incurred by you in making a claim under this Einhell Express Guarantee, unless specified otherwise in this guarantee certificate, must be borne by you.

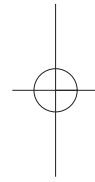
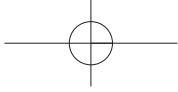
Of course, we are also happy to offer a chargeable repair service for any defects which are not covered by the scope of the Einhell Express Guarantee or for products which are no longer covered by the Einhell Express Guarantee. To take advantage of this service, please send the product to our service address.

EINHELL AUSTRALIA PTY LTD
6/166 Wellington Street
Collingwood VIC 3066
Australia
Phone: 1300 922 271



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