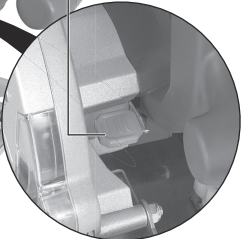
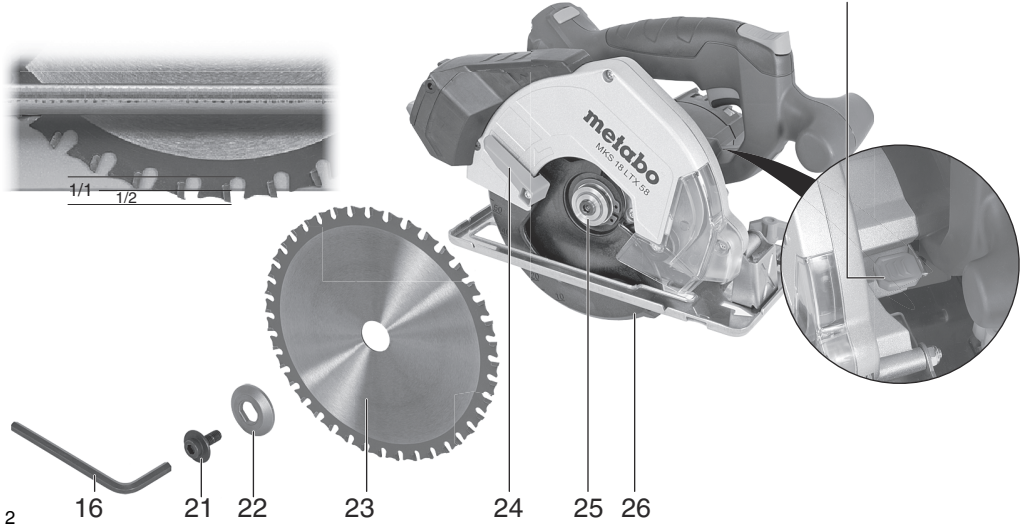
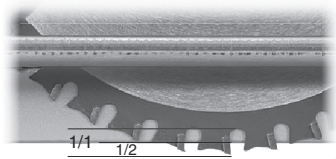
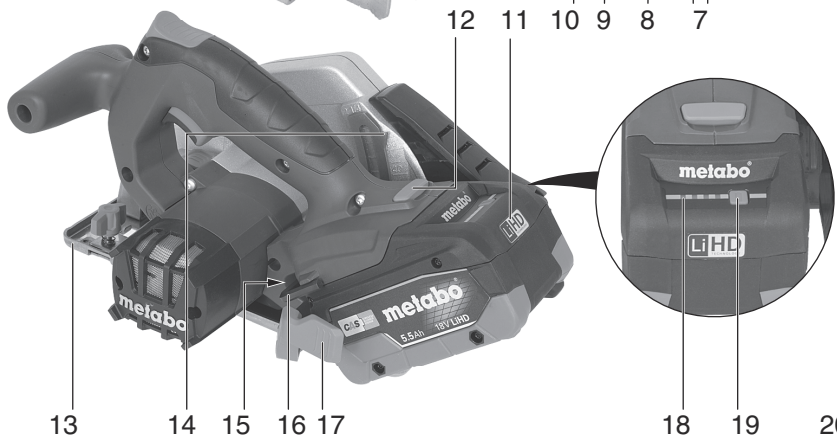
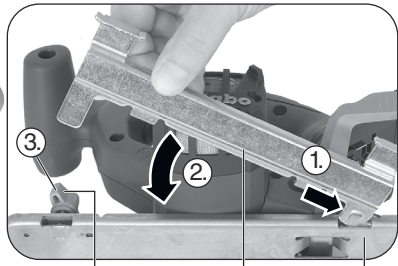
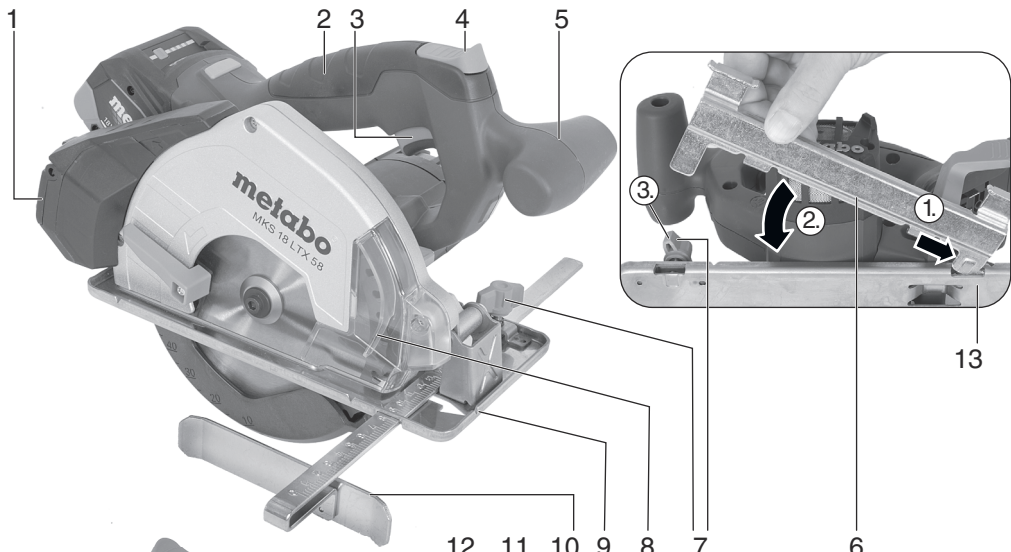


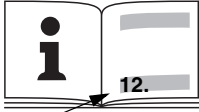
## MKS 18 LTX 58

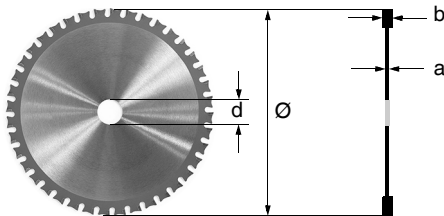


**en** Operating Instructions 5  
**fr** Mode d'emploi 12

**es** Instrucciones de manejo 20

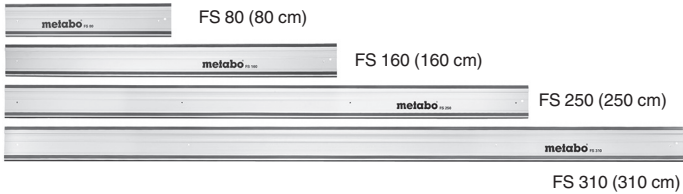


		<b>MKS 18 LTX 58</b> Serial Number: 00771..
U	V	18
$n_0$	/min	3600
$T_{max}$	in (mm)	2 9/32" (58)
$\emptyset$	in (mm)	6 1/2" (165)
d	in (mm)	25/32" (20)
a	in (mm)	max. 0.051" (max. 1,3)
b	in (mm)	max. 0.067" (max. 1,7)
m	lbs (kg)	8.3 (3,8)
$a_{h,D}/K_{h,D}$	$m/s^2$	< 2,5 / 1,5
$L_{pA}/K_{pA}$	dB (A)	97 / 3
$L_{WA}/K_{WA}$	dB (A)	108 / 3



Metabowerke GmbH,  
 Postfach 1229  
 Metabo-Allee 1  
 D-72622 Nuertingen  
 Germany

(A)



(B)



6.31031



6.29021

(C)



Ø165 x 20mm, steel cut classic, .....6.28273  
 Ø165 x 20mm, aluminium cut professional, ..6.28276

(D)



ASC 55



ASC ultra

(E)



18 V	LiHD	5,5 Ah	6.25368
18 V	LiHD	7,0 Ah	6.25345
18 V	LiHD	8,0 Ah	6.25369

# Operating Instructions

## 1. Specified Conditions of Use

The cordless handheld circular saw is designed for sawing unhardened ferrous metals and non-ferrous metals.

The machine is not designed for sawing wood or materials similar to wood, plastic, plaster, gypsum fibreboard, and composite materials.

The machine is not designed for plunge cuts.

The user bears sole responsibility for any damage caused by inappropriate use.

Generally accepted accident prevention regulations and the enclosed safety information must be observed.

## 2. General Safety Information



For your own protection and for the protection of your power tool, pay attention to all parts of the text that are marked with this symbol!



**WARNING** – Reading the operating instructions will reduce the risk of injury.

Pass on your power tool only together with these documents.

### General Power Tool Safety Warnings



**WARNING** – Read all safety warnings, instructions, illustrations and specifications provided with this power tool.

Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

**Save all safety warnings and information for future reference!** The term "power tool" in the safety warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

### 2.1 Work area safety

- Keep work area clean and well lit.** Cluttered or 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 children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

### 2.2 Electrical safety

- 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.
- 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.

- Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- Do not abuse the power tool. 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.
- 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.
- 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.

### 2.3 Personal safety

- 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.
- Use personal protective equipment. Always wear eye protection.** Protective equipment such as a dust mask, non-skid safety shoes, hard hat or hearing protection used for appropriate conditions will reduce personal injuries.
- 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.
- 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.
- Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- 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.
- 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.
- Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.

## 2.4 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 remove the battery pack, if detachable, 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 and accessories with care. 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.*

h) **Keep handles and grasping surfaces dry, clean and free from oil and grease.** *Slippery handles and grasping surfaces do not allow safe handling and control of the tool in unexpected situations.*

## 2.5 Battery tool use and care

a) **Recharge only with the charger specified by the manufacturer.** *A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.*

b) **Use power tools only with specifically designated battery packs.** *Use of any other battery packs may create a risk of injury and fire.*

c) **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 burns or a fire.*

d) **Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help.** *Liquid ejected from the battery may cause irritation or burns.*

e) **Do not use a battery pack or tool that is damaged or modified.** *Damaged or modified batteries may exhibit unpredictable behaviour resulting in fire, explosion or risk of injury.*

f) **Do not expose a battery pack or tool to fire or excessive temperature.** *Exposure to fire or temperature above 130 °C (265 °F) may cause explosion.*

g) **Follow all charging instructions and do not charge the battery pack or tool outside the temperature range specified in the instructions.** *Charging improperly or at temperatures outside the specified range may damage the battery and increase the risk of fire.*

## 2.6 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.*

b) **Never service damaged battery packs.** *Service of battery packs should only be performed by the manufacturer or authorized service providers.*

## 3. Special safety instructions for circular saws

### Sawing procedure



a) **DANGER: Keep hands away from cutting area and the blade. Keep your second hand on auxiliary handle, or motor housing.** *If both hands are holding the saw, they cannot be cut by the blade.*

b) **Do not reach underneath the workpiece.** *The guard cannot protect you from the blade below the workpiece.*

c) **Adjust the cutting depth to the thickness of the workpiece.** *Less than a full tooth of the blade teeth should be visible below the workpiece.*

d) **Never hold the workpiece in your hands or across your leg while cutting. Secure the workpiece to a stable platform.** *It is important to support the work properly to minimise body exposure, blade binding, or loss of control.*

e) **Hold the power tool by insulated gripping surfaces, when performing an operation where the cutting tool may contact hidden wiring.** *Contact with a "live" wire will also make exposed metal parts of the power tool "live" and could give the operator an electric shock.*

f) **When ripping, always use a rip fence or straight edge guide.** *This improves the accuracy of cut and reduces the chance of blade binding.*

g) **Always use blades with correct size and shape (diamond versus round) of arbour holes.** *Blades that do not match the mounting hardware of the saw will run off-centre, causing loss of control.*

h) **Never use damaged or incorrect blade washers or bolt.** *The blade washers and bolt were specially designed for your saw, for optimum performance and safety of operation.*

**Kickback causes and related warnings**

- kickback is a sudden reaction to a pinched, jammed or misaligned saw blade, causing an uncontrolled saw to lift up and out of the workpiece toward the operator;
- when the blade is pinched or jammed tightly by the kerf closing down, the blade stalls and the motor reaction drives the unit rapidly back toward the operator;
- if the blade becomes twisted or misaligned in the cut, the teeth at the back edge of the blade can dig into the top surface of the wood causing the blade to climb out of the kerf and jump back toward the operator.

Kickback is the result of saw misuse and/or incorrect operating procedures or conditions and can be avoided by taking proper precautions as given below.

**a) Maintain a firm grip with both hands on the saw and position your arms to resist kickback forces. Position your body to either side of the blade, but not in line with the blade.** Kickback could cause the saw to jump backwards, but kickback forces can be controlled by the operator, if proper precautions are taken.

**b) When blade is binding, or when interrupting a cut for any reason, release the trigger and hold the saw motionless in the material until the blade comes to a complete stop. Never attempt to remove the saw from the work or pull the saw backward while the blade is in motion or kickback may occur.** Investigate and take corrective actions to eliminate the cause of blade binding.

**c) When restarting a saw in the workpiece, centre the saw blade in the kerf so that the saw teeth are not engaged into the material.** If a saw blade binds, it may walk up or kickback from the workpiece as the saw is restarted.

**d) Support large panels to minimise the risk of blade pinching and kickback.** Large panels tend to sag under their own weight. Supports must be placed under the panel on both sides, near the line of cut and near the edge of the panel.

**e) Do not use dull or damaged blades.** Unsharpened or improperly set blades produce narrow kerf causing excessive friction, blade binding and kickback.

**f) Blade depth and bevel adjusting locking levers must be tight and secure before making the cut.** If blade adjustment shifts while cutting, it may cause binding and kickback.

**g) Use extra caution when sawing into existing walls or other blind areas.** The protruding blade may cut objects that can cause kickback.

**Lower guard function**

**a) Check the lower guard for proper closing before each use. Do not operate the saw if the lower guard does not move freely and close instantly. Never clamp or tie the lower guard into the open position.** If the saw is accidentally dropped, the lower guard may be bent. Raise the lower guard with the retracting handle (24) and make sure it moves freely and does not touch the

blade or any other part, in all angles and depths of cut.

**b) Check the operation of the lower guard spring. If the guard and the spring are not operating properly, they must be serviced before use.** Lower guard may operate sluggishly due to damaged parts, gummy deposits, or a build-up of debris.

**c) The lower guard may be retracted manually only for special cuts such as "plunge cuts" and "compound cuts". Raise the lower guard by the retracting handle (24) and as soon as the blade enters the material, the lower guard must be released.** For all other sawing, the lower guard should operate automatically.

**d) Always observe that the lower guard is covering the blade before placing the saw down on bench or floor.** An unprotected, coasting blade will cause the saw to walk backwards, cutting whatever is in its path. Be aware of the time it takes for the blade to stop after switch is released.

Do not use abrasive grinding discs.

Keep hands away from the rotating tool! Remove chips and similar material only with the machine at a standstill.



Wear a suitable dust protection mask.



Wear ear protectors.



Wear protective goggles.

Press the spindle locking button only when the motor is at a standstill.

Do not reduce the speed of the saw blade by pressing on the sides.

The movable guard must not be clamped in the pulled-back position for sawing.

The movable guard must move freely, automatically, easily and exactly back into its end position.

Clean the machine regularly. Make sure that the safety appliances, e.g. the movable guard, are in perfect working order.

If the saw blade blocks, turn the motor off immediately.

Do not try to saw extremely small workpieces.

During machining, the workpiece must be firmly supported and secured against moving.

The saw blade and shavings may be very hot after sawing.


Watch out where wood shavings are flying. Wood shavings are hot and can cause burns, fires, or cutting injuries.

Shavings are sharp and may cause injuries. Keep clothing closed so no shavings can get inside.


Use only undamaged saw blades. Ensure that no teeth on the blades are broken.

**Avoid overheating of the saw tooth tips.** Use a saw blade that is suitable for the material being sawn.

If the machine is defective, remove the battery pack from the machine.

 Protect battery packs from water and moisture!

Do not use faulty or deformed battery packs!

 Do not expose battery packs to fire!


Do not open battery packs!


Do not touch or short circuit battery pack contacts!

**Remove the battery pack from the machine when not in use.**

**Remove the battery pack from the tool before any adjustments, conversions, servicing or cleaning are performed.**

**Make sure that the tool is switched off before fitting the battery pack.**

 A slightly acidic, flammable fluid may leak from defective Li-ion battery packs!

 If battery fluid leaks out and comes into contact with your skin, rinse immediately with plenty of water. If battery fluid leaks out and comes into contact with your eyes, wash them with clean water and seek medical attention immediately!

#### Transport of li-ion battery packs:

The shipping of li-ion battery pack is subject to laws related to the carriage of hazardous goods (UN 3480 and UN 3481). Inform yourself of the currently valid specifications when shipping li-ion battery packs. If necessary, consult your freight forwarder. Certified packaging is available from Metabo.

Only send the battery pack if the housing is intact and no fluid is leaking. Remove the battery pack from the machine for sending. Secure the contacts against short circuiting (e. g. insulate with tape).

#### Additional Warnings:

**⚠ WARNING** Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- Lead from lead-based paints,
- Crystalline silica from bricks and cement and other masonry products, and
- Arsenic and chromium from chemically treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

#### SYMBOLS ON THE TOOL:

V ..... volts  
 == .....direct current  
 rpm .....revolutions per minute  
 .../min .....revolutions per minute  
 n<sub>0</sub> .....no load speed  
 Ø .....saw blade diameter


### 4. Overview

See page 2.

- 1 Shavings collection box
- 2 Handle
- 3 Trigger
- 4 Locking button
- 5 Side handle
- 6 Guide rail adapter\*
- 7 Locking screw (parallel stop, guide rail adapter)
- 8 View window (exchangeable)
- 9 Cutting indicator
- 10 Parallel stop
- 11 Battery pack \*
- 12 Battery pack release button
- 13 Guide plate
- 14 Scale (depth of cut)
- 15 Storage for hexagon wrench
- 16 Hexagon wrench
- 17 Locking lever (depth of cut)
- 18 Capacity and signal indicator \*
- 19 Capacity indicator button \*
- 20 Spindle locking button
- 21 Saw blade fixing screw
- 22 Outer saw blade flange
- 23 Saw blade
- 24 Lever (swivelling back the movable guard)
- 25 Inner saw blade flange
- 26 Movable safety guard

\*equipment-specific

### 5. Initial Operation and Setting

 Remove the battery pack from the tool before any adjustments, conversions, servicing or cleaning are performed. Make sure that the tool is switched off before fitting the battery pack.

#### 5.1 Battery pack

Charge the battery pack (11) before use.

Recharge the battery pack if performance diminishes.

Instructions on charging the battery pack can be found in the operating instructions of the Metabo charger.

**Li-ion battery packs “Li-Power, LiHD“** have a capacity and signal indicator (18):

- Press the button (19), the LEDs indicate the charge level.
- The battery pack is almost flat and must be recharged if one LED is flashing.



**Removal:**

Press the battery pack release (12) button and pull the battery pack (11) **upwards**.

**Inserting:**

Slide in the battery pack (11) until it engages.

**5.2 Setting cutting depth**


Loosen the locking lever (17) for adjustment. Read the depth of cut that has been set from the scale (14). Tighten the locking screw again.


It is advisable to set the depth of cut in such a way that no more than half of each tooth on the saw blade juts out under the workpiece. See illustration on page 3.

**5.3 Attach guide rail adapter (as needed)**

Attach the adapter (6) to be able to attach the machine to a guide rail (see Accessories section). Insert adapter (6), as shown, into the guide plate (13). Tighten the locking screw (7) and use it to attach the adapter to the machine.

**6. Use****6.1 The machine's multifunctional monitoring system**

 If the machine switches off automatically, the machine electronics have activated automatic protection mode. A warning signal sounds (continuous beeping). The beeping stops after a maximum of 30 seconds or when the trigger switch (3) is released.

 In spite of this protective function, overloading is still possible with certain applications and can result in damage to the machine.

**Causes and remedies:**

- 1. Battery pack almost flat** (the electronics prevent the battery pack from discharging totally and avoid irreparable damage).

If one LED (18) is flashing, the battery pack is almost flat. If necessary, press the button (19) and check the LED lamps (18) to see the charge level. If the battery pack is almost flat, it must be recharged.

- 2. Long continuous overloading of the machine will activate the temperature cut-out.**

The machine continues to run with reduced performance until the temperature is back to normal.

In case of excessive overheating, the machine will switch off completely.

Leave the machine or battery pack to cool.

**Note:** If the battery pack feels very warm, the pack will cool more quickly in your "AIR COOLED" charger.

**Note:** The machine will cool more quickly if you operate it at idling speed.

- 3. If the current is too high** (for example, if the machine seizes continuously for long periods), the machine switches off.


Switch off the machine at the trigger switch (3). Then continue working as normal (in this case, read in particular the safety instructions in Chapter 4. Kickback, in addition to all other safety instructions). Try to prevent the machine from seizing.


**6.2 Switching on and off**

**Switching on:** Push the locking button (4) forwards and hold, then actuate the trigger (3).


**Switching off:** Release the trigger switch (3).

**6.3 Working Directions**

 Do not switch the machine on or off while the saw blade is touching the workpiece.

 Let the saw blade reach its full speed before making a cut.

When the hand-held circular saw is added, the movable guard is swung backwards by the workpiece.

 When sawing, never remove the machine from the material with the saw blade turning. Allow the saw blade to come to a standstill.

 If the saw blade blocks, turn the machine off immediately.

Guide the machine at a speed suitable for the material being processed.

**Sawing along a straight line:** the cutting indicator is used here (9).

**Sawing along a rail secured on the workpiece:** In order to achieve an exact cutting edge, you can attach a rail to the workpiece and then guide the hand-held circular saw by means of the guide plate along this rail.

**Sawing with parallel guide:**

For cuts parallel to a straight edge. The parallel guide (10) can be inserted from either side into the support provided for it. Tighten the locking screw (7). It is best to calculate the exact cut width by making a test cut.

**Sawing with guide rail:**


For dead straight, tear-free cutting edges with millimetre precision. The anti-slip coating keeps the surface safe and protects the workpiece against scratches. For guide rail, see chapter on Accessories.


**Battery pack heat generation:**

Under extremely hard application conditions (e.g. sawing thick wooden planks), the heavy load can cause the battery pack to heat (> 60 °C). To conserve the battery pack, allow it to cool down before continuing work.

**7. Maintenance****Changing saw blades**


 Remove battery pack from machine.

 Directly after cutting the saw blade can be very hot – burning hazard! Let a hot saw blade cool down.

 Risk of injury, even with the blade at standstill. Wear protective gloves when changing blades.

Press in the spindle locking button (20) and hold in place. Turn the saw spindle slowly with the spanner in the saw blade fixing screw (21) (16) until the lock catches.


Unscrew the saw blade fixing screw in a anti-clockwise direction and remove the outer saw blade flange (22). Pull back the movable guard (26) and remove the saw blade.


 Ensure that the inner saw blade flange (25) is inserted in the right way: The inner saw blade flange (25) has 2 sides, diameter 20 mm and 5/8" (16 mm). Ensure a precise fit of saw blade mounting hole to the inner saw blade flange (25)! Incorrectly installed saw blades do not run smoothly and lead to loss of control.


Insert a new saw blade. Make sure the direction of rotation is correct. The direction of rotation is indicated by arrows on the saw blade and guard. The contact areas between the inner saw blade flange (25), the saw blade (23), the outer saw blade flange (22) and the saw blade fixing screw (21) must be clean.


Put on the outer saw blade flange (22). Ensure that the outer saw blade flange (22) is inserted the correct way round (inscription facing outwards).


Tighten the saw blade fixing screw (21) using a hexagon wrench (16) (**max. 5 Nm**).


 Use only sharp, undamaged saw blades. Do not use saw blades that are cracked or that have changed their shape.


 Do not use any saw blades made from high-alloy high-speed steel (HSS).

 Do not use any saw blades which do not conform to the specified rating. Use only saw blades with a diameter according to the markings on the saw.


 The saw blade must be suitable for the no-load speed.


 Use a saw blade that is suitable for the material being sawn.

 Use only genuine Metabo - saw blades.

 Never use abrasive grinding discs.

## 8. Cleaning

 Remove battery pack from machine.

 Danger of injury from hot or sharp shavings. Wear protective gloves when emptying the shavings collection box (1)

Empty the shavings collection box (1) regularly: open the lid and shake out shavings. The shavings collection box can be removed from the machine if necessary. To attach, place the shavings collection box on the guard and press until it snaps into place.

Clean the machine regularly. Make sure that the safety appliances, e.g. the movable guard, are in perfect working order.

## 9. Accessories

Only use original Metabo or CAS (Cordless Alliance System) battery packs and accessories.

Use only accessories that fulfil the requirements and specifications listed in these operating instructions.

See page 4.

- A Guide rail
- B Clamp. To secure the guide rail.
- C Circular saw blade for metal applications
- D Chargers
- E Battery packs with different capacities. Only buy battery packs only with voltage suitable for your power tool

For a complete range of accessories, see [www.metabo.com](http://www.metabo.com) or the catalogue.

## 10. Repairs

 Repairs to electrical tools must ONLY be carried out by qualified electricians!

Contact your local Metabo representative if you have Metabo power tools requiring repairs. See [www.metabo.com](http://www.metabo.com) for addresses.

You can download a list of spare parts from [www.metabo.com](http://www.metabo.com).

## 11. Environmental Protection

Observe national regulations on environmentally compatible disposal and on the recycling of disused machines, packaging and accessories.

Battery packs may not be disposed of with regular waste. Return faulty or used battery packs to your Metabo dealer!

Do not allow battery packs to come into contact with water!

Discharge the battery pack in the power tool before disposal. Secure the contacts against short circuiting (e. g. insulate with tape).

## 12. Technical Specifications

Explanatory notes on the specifications on page 3. Changes due to technological progress reserved.

- U = Voltage of battery pack
- $n_0$  = idle speed
- $T_{max}$  = maximum depth of cut
- $\varnothing$  = saw blade diameter
- d = saw blade drill diameter
- a = max. base body thickness of the saw blade
- b = max. cutting width of saw blade
- m = weight

Permitted ambient temperature during operation: -20 °C to 50 °C (limited performance with

temperatures below 0 °C). Permitted ambient temperature for storage: 0 °C to 30 °C

Recommended ambient temperature when charging: 32°F (0°C) to 104°F (40 °C)

The technical specifications quoted are subject to tolerances (in compliance with the relevant valid standards).

### **Emission values**

These values make it possible to assess the emissions from the power tool and to compare different power tools. The actual load may be higher or lower depending on the operating conditions, the condition of the power tool or the accessories. Please allow for breaks and periods when the load is lower for assessment purposes. Arrange protective measures for the user, such as organisational measures based on the adjusted estimates.

Vibration total value (vector sum of three directions) determined in accordance with EN 62841:

$a_{h,D}$  = Vibration emission value  
(Sawing metal)

$K_{h,D}$  = Uncertainty (vibration)

Typical A-effective perceived sound levels:

$L_{pa}$  = Sound-pressure level

$L_{WA}$  = Acoustic power level

$K_{pA}, K_{WA}$  = Uncertainty

The noise level can exceed 80 dB(A) during operation.

 **Wear ear protectors!**