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FESTOOL

Instruction manual

Page 6

IMPORTANT: Read all instructions before using.

Guide d'utilisation

Page 20

IMPORTANT: Lire toutes les instructions avant de démarrer les travaux.

Manual de instrucciones

Página 35

IMPORTANTE: Lea todas las instrucciones antes de usar.

Instruction manual
Guide d'utilisation
Manual de instrucciones

CARVEX

PS 420 EBQ

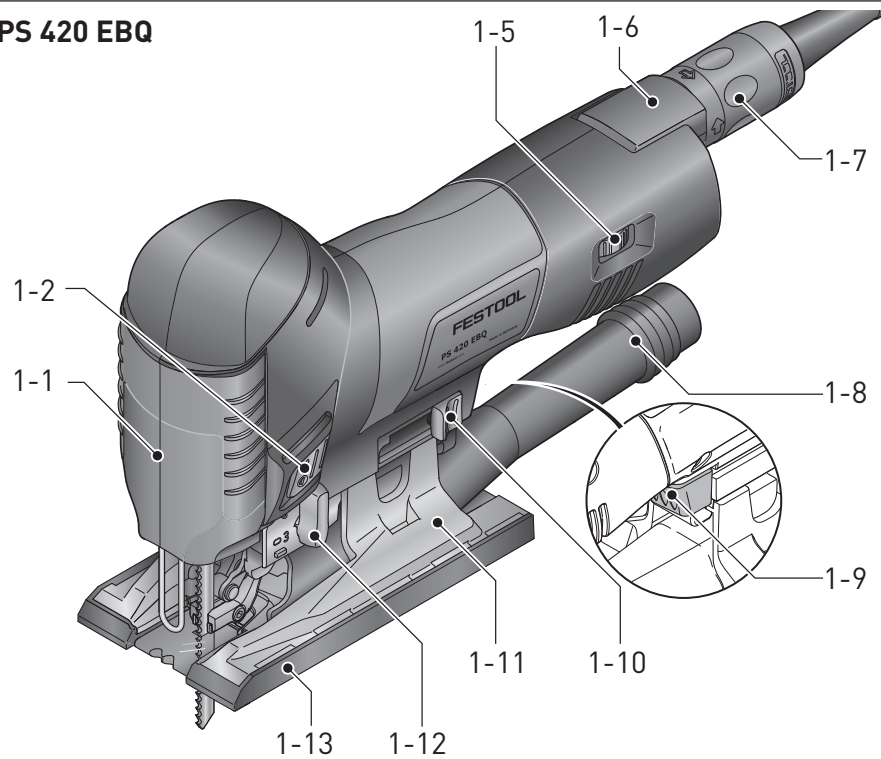
PSB 420 EBQ



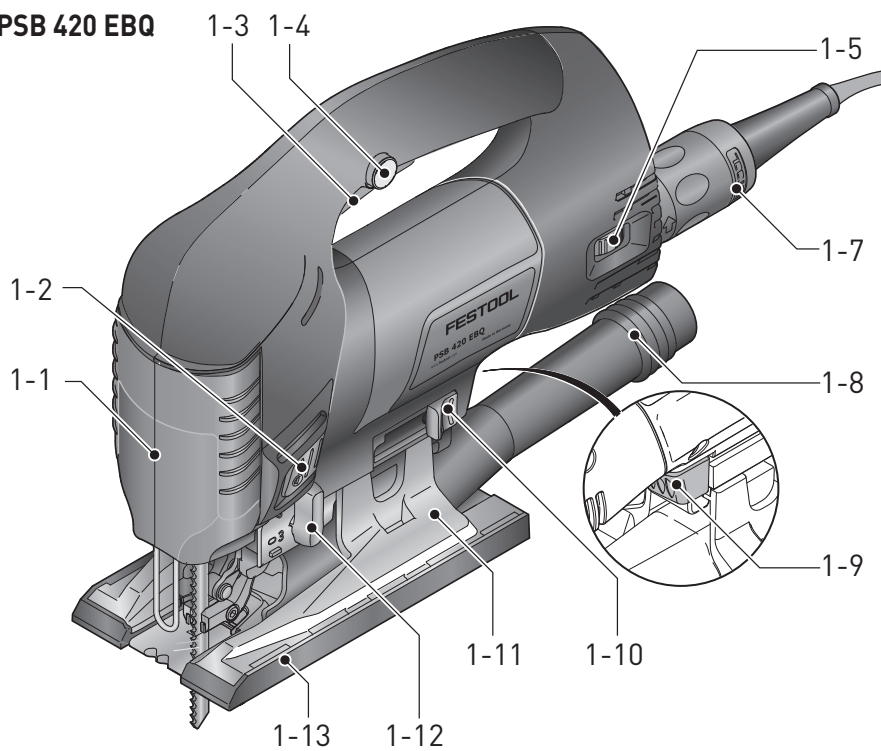
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PS 420 EBQ














PSB 420 EBQ




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rpm	revolutions per minute
min ⁻¹	
"	inch
lbs.	pound
	diameter
	hint, tipp
	Warning of general danger
	Risk of electric shock
	Read the Operating Instructions/Notes!
	Wear a dust mask.
	Wear ear protection.
	Wear protective goggles.
	Wear protective gloves.
	Disconnect from the power supply!
	Do not throw in the household waste.

Symbols

V	volts
A	amperes
Hz	hertz
~	alternating current
a.c.	
---	direct current
d.c.	
n ₀	no load speed
	Class II construction

Safety instructions

General safety instructions



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 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.

1 WORK AREA SAFETY

- Keep work area clean and well lit.** Cluttered 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.

- c. **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

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.

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.
- h. **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.

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 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.

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

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.

Machine-related safety instructions

- **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.
- **Use clamps or another practical way to secure and support the workpiece to a stable platform.** Holding the workpiece by hand or against your body leaves it unstable and may lead to loss of control.
- **Stroboscopic light can cause epileptic seizures.** Do not use this machine if you are susceptible to epileptic seizures.

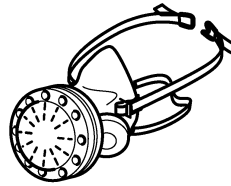
- Do not look into the stroboscope light. Looking into the light source can damage your vision.

Health hazard by dust



WARNING! Various dust created by power sanding, sawing, grinding, drilling and other construction activities contains chemicals known (to the State of California) 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.



The 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 dust masks that are specially designed to filter out microscopic particles. Wash hands after handling.



WARNING

TO REDUCE THE RISK OF INJURY, USER MUST READ INSTRUCTION MANUAL.

Technical data

Jigsaws	PS 420 EBQ	PSB 420 EBQ
Power	400 W	
Stroke speed	1500 - 3800 rpm	1000 - 3800 rpm
Stroke length	26 mm (1.02 ")	
Pendulum stroke	4 steps	
max. inclination (only with accessory angle table WT-PS 400)	45° to both sides	
max. cutting depth (depending on saw blade)		
	Wood	4-3/4" (120 mm)
	Aluminium	3/4" (20 mm)
	Steel	3/8" (10 mm)
Weight	4.2 lb. (1.9 kg)	

Functional description

The pictures for the functional description are on a fold-out page at the beginning of the instruction

manual. While reading the manual you can fold out the page for comparison and quick reference.

- [1-1]** Chip guard
- [1-2]** On/Off switch
- [1-3]** Variable speed trigger (only PSB 420 EBQ)
- [1-4]** Switch lock (only PSB 420 EBQ)
- [1-5]** Adjusting wheel for stroke speed control
- [1-6]** Swivel plug-it connection (only PS 420 EBQ)
- [1-7]** Mains power cable
- [1-8]** Extractor connector
- [1-9]** Saw table change lever
- [1-10]** Saw blade ejection
- [1-11]** Replaceable saw table
- [1-12]** Pendulum stroke switch
- [1-13]** Base runner

Intended use

Jigsaws are designed for sawing wood and materials similar to wood. With the special saw blades offered by Festool, these machines can also be used for sawing plastic, steel, aluminium, non-ferrous metal and ceramic plates.

Festool electric power tools must only be installed on work tables provided by Festool for this purpose.

pose. If the tool is installed in another, or self-made, work table, it can become unstable and result in serious accidents.



WARNING

The user will be liable for damage due to improper use.

Operation



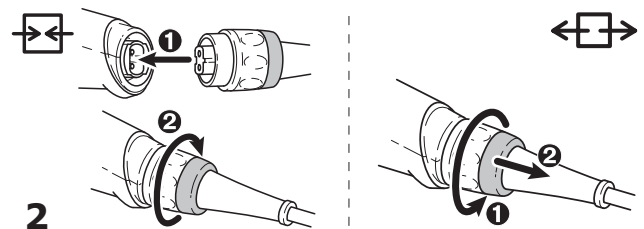
WARNING

Unauthorised voltage or frequency!

Risk of accident

- The mains voltage and the frequency of the power source must correspond with the specifications on the machine's name plate.
- In North America, only Festool machines with the voltage specifications 120 V/60 Hz may be used.

Connecting and detaching the mains power cable **[1-7]** see Fig. **[2]**.



- Insert the plug into a socket.

Extension Cord

If an extension cord is required, it must have sufficient cross-section to prevent an excessive drop in voltage or overheating. An excessive drop in voltage reduces the output and can lead to failure of the motor. The table below shows you the correct cord diameter as a function of the cord length for this tool.

Total Extension Cord Length (feet)	25	50	100	150
Cable size (AWG)	18	16	16	14

Use only U.L. and CSA listed extension cords.

Never use two extension cords together. Instead, use one long one.

① The lower the AWG number, the stronger the cord.

Settings

Consider the pictures on the fold-out page.



WARNING

Risk of injury, electric shock

- ▶ Always pull the mains plug out of the socket before performing any type of work on the machine!

Stroke speed control

The number of strokes can be adjusted steplessly with the adjusting wheel **[1-5]** between 1500 and 3800 rpm (PSB 420 EBQ: 1000 - 3800 rpm). This enables you to optimise the cutting speed to suit the respective material.

In position **A**, the automatic load detection is activated: The stroke speed is reduced in no-load operation and is restricted to the highest value when the blade enters the workpiece.

Recommended stroke speed (position of the adjusting wheel)

Hard and soft wood, plywood board, plywood, chip board	A
Hardboard	4 - A

Recommended stroke speed (position of the adjusting wheel)

Plastic	3 - A
Ceramic, aluminium, non-ferrous metals	3 - 5
Steel	2 - 4

Adjusting the pendulum stroke

In order to process different materials with an optimum feed movement the pendulum jigsaws have an adjustable pendulum stroke. Select the desired setting with the pendulum stroke switch **[1-12]**:

setting 0 = pendulum stroke off

setting 3 = maximum pendulum stroke

Recommended settings of the pendulum stroke

Hard and soft wood, chip board, wood fibre board	1 - 3
Wood core plywood, plywood, plastics	1 - 2
Ceramic	0
Aluminium, NF metals	0 - 2
Steel	0 - 1

Using the chip guard

The chip guard **[1-1]** prevents chips from flying away and improves the efficiency of the chip extraction system.

- ▶ Using minimal pressure, push the chip guard **[1-1]** downwards.

Changing saw table

- ▶ Open the change lever **[1-9]**.
 - ▶ Removing the saw table downwards.
- ① Assembly is performed in reverse sequence to removal. Ensure that the saw table is firmly seated in the guide.

Instead of the saw table, the angle table WT-PS 400 or adaptation table ADT-PS 400 can be installed at the support.



Never saw without the saw table, or one of the other tables offered in the Festool accessories program.

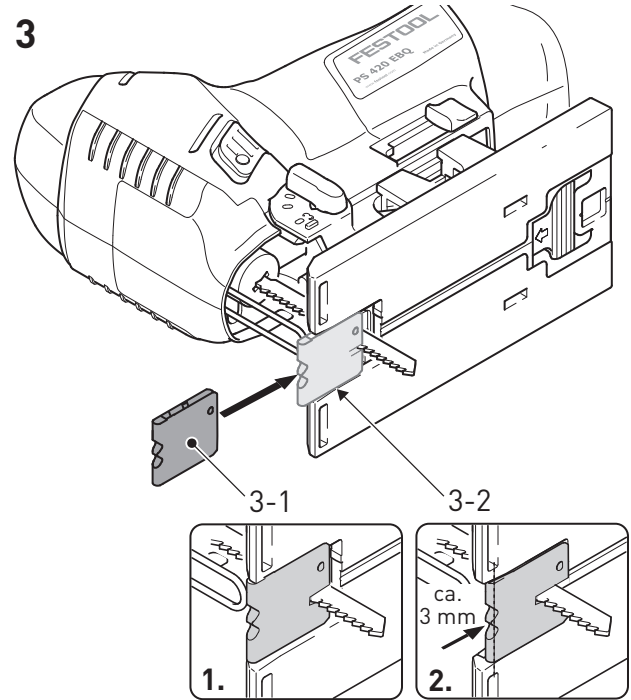
Inserting the splinterguard

The splinterguard ensures a smooth, splinter-free cutting edge, even when exiting the material.

- ▶ Switch off the machine and slide down the splinterguard **[3-1]** into the guide **[3-2]** and up to the saw blade,
 - ▶ Switch on the jigsaw,
 - ▶ On a level surface, slide in the splinterguard **(not using your hand!)** while the machine is operating until it is level with the front edge of the saw base (speed setting 5). This breaks in the splinterguard.
- ① If machine shows obvious signs of wear, push the splinterguard approx. 3 mm further to the rear and continue using it.
- ① To guarantee reliable operation of the splinterguard, it must seal tightly on both sides of the saw blade. A new splinterguard should there-

fore be fitted after every saw blade change to guarantee splinter-free cuts.

3



Dust extraction

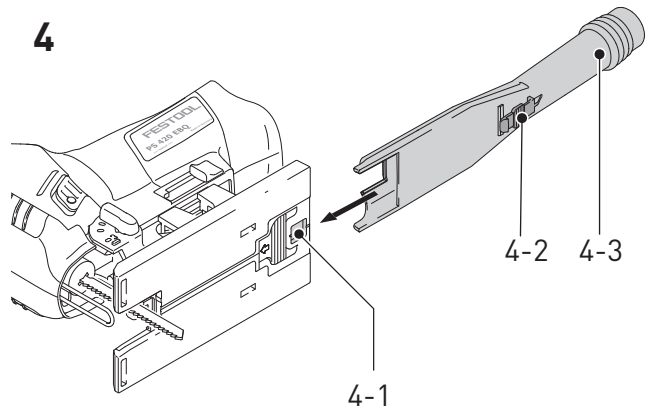


WARNING

Dust hazard

- ▶ Dust can be hazardous to health. Always work with a dust extractor.
- ▶ Always read applicable national regulations before extracting hazardous dust.


4



The extraction adapter **[4-3]** allows jigsaws to be connected to a dust extractor (hose diameter 27 mm).


- ▶ Insert the extraction adapter into the rear opening of the saw table so that the hook **[4-2]** engages in the **[4-1]** recess.
- ▶ To remove the extraction adapter, press the hook **[4-2]**.
- ① Due to the low power consumption of the machine (low energy consumption), dust extractors with an automatic switch-on function will sometimes only start up when the actual cut is made.
- ▶ Set the dust extractor to continuous operation for special applications (e.g. low stroke rate, soft wood).

Changing tools



CAUTION

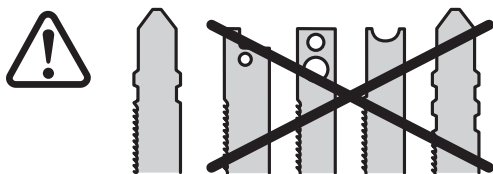
Hot and sharp tools
Risk of injury

- ▶ Do not use insert tools that are blunt or defective.
- ▶ Wear protective gloves.

 Deformed or cracked saw blades and saw blades with blunt or broken cutting edges must not be used.


Selecting saw blade

 Only use saw blades with a T-shank. The saw blade should not be longer than that required for the intended cut. To ensure safe guidance, during the cut the saw blade should emerge at the bottom of the workpiece with each stroke.



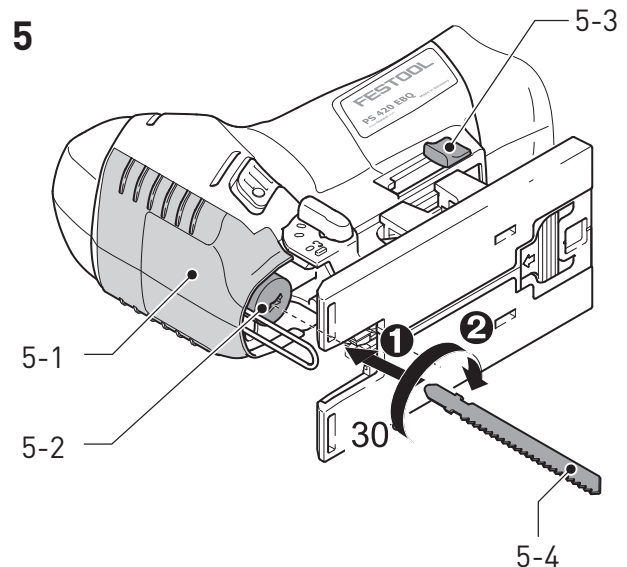
- ① Only use cross-set saw blades when using the angle and adapter table. We recommend Festool saw blade S 105/4 FSG.


Inserting saw blade


WARNING

Risk of injury, electric shock

- ▶ Always pull the mains plug out of the socket before performing any type of work on the machine!



- ▶ If necessary, lift up the chip guard **[1-1]**.
- ▶ Slide the saw blade **[5-4]** into the opening **[5-2]** as far as the stop with its teeth in the cutting direction.
- ▶ Turn the saw blade **[5-4]** clockwise approx. 30°.
-  Check that the saw blade is secure. A loose saw blade can fall out and cause an injury.
- ① If the saw blade is very small, it is advisable to remove the saw base (see chapter) before inserting the saw blade.

Adjust the saw blade guide after every saw blade change:

The saw blade guide was designed to improve guidance of the saw blade.

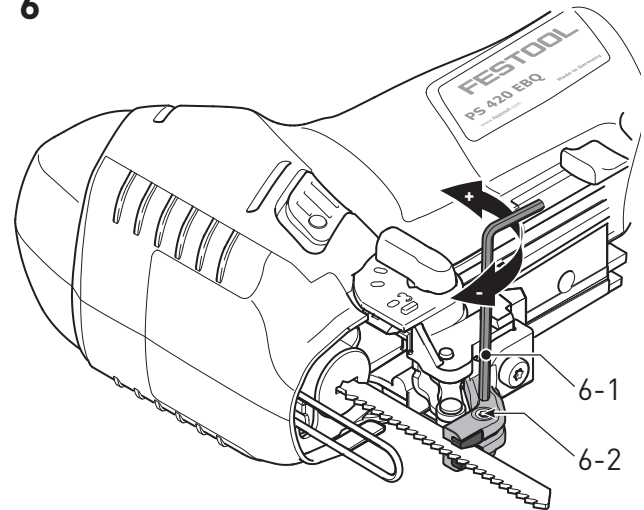
- ▶ Remove the saw base (see chapter Changing saw table).
- ▶ Tighten the screw [6-2] using the Allen key [6-1] until the jaws are almost touching the saw blade.

NOTE

Damage to the machine or saw blade

- ▶ Do not tighten the screw [6-2] too firmly! It must be possible to move the saw blade slightly.

6



Ejecting saw blade

- ① When ejecting the saw blade, hold the electric power tool such that no persons or animals can be injured.
- ▶ Push the saw blade ejection [5-3] forwards as far as the stop.
- ① A tool change is only possible when the tool holder is located in the upper position!

If the saw blade is stuck and cannot be changed:
Operate the jigsaw at high speed for 3 - 10 seconds.
Actuate the saw blade ejection [5-3] again.

Working with the machine



CAUTION

Material with high dust generation (e.g. plaster-board)

Damage to machine through dust penetration, risk of injury

- ▶ Do not work overhead!



WARNING

Risk of injury

- ▶ With the tool switched off and unplugged, check for tight fit of the sawblade before starting to work
- ▶ Always apply the pendulum jigsaw to the work-piece with the sawblade running.
- ▶ Wait until the power tool stops completely until placing it down. The tool can become entangled and lead to a loss of control of the power tool.

When working on small or thin workpieces, always use a stable base.

When working, hold the electric power tool by the handle and guide it along the desired cutting line.

For precise cuts and smooth running, use two hands to guide the electric power tool.

Free saw guidance along a scribe mark


The triangular pointer on the splinterguard **[3-1]** indicates the cutting line of the saw blade. This facilitates sawing along a scribe mark.

Switch on/off

The electric power tool has one button **[1-2]** on each side for switching on/off.

The PSB 420 EBQ also has a variable speed trigger **[1-3]** with switch lock **[1-4]**. For continuous operation, use the button **[1-2]**.


Lighting

**WARNING**

The stroboscope light may make it difficult to determine the saw blade position

Risk of injury

► Ensure the work area is well illuminated.

**WARNING**

Looking into the light source can damage your vision.

► Do not look into the stroboscope light.

A continuous light or stroboscope is installed for illuminating the cutting line:

up to approx. 2100 rpm: continuous light

from approx. 2100 rpm: stroboscope light

① In overhead position (+/- 45°), the lighting is switched off completely.


If required, you can adjust the lighting:


- Plug in the electric power tool.
- Press both buttons simultaneously **[1-2]** and hold for approx. 10 s until a beep sounds.
- Release both buttons **[1-2]**.
- Press the left button (on the pendulum stroke side) to select the stroke speed and consequently the desired operating mode:

Mode	Indication during configuration	Behaviour during operation
1	Light flashes	With stroboscope (standard)
2	Light on	Permanent light without stroboscope
3	Light off	Light switched off

- Press the right button to save the setting.

Metalworking

- The following precautions are to be taken when processing metals for safety reasons:
- Pre-connect a residual current circuit-breaker (FI, PRCD).
 - Connect the machine to a suitable dust extractor.
 - Clean tool regularly of dust accumulations in the motor housing.

Wear protective goggles.

Accessories

Use only original Festool accessories and Festool consumable material intended for this machine. These components are designed specifically for this machine. Using accessories and consumable material from other suppliers will most likely affect

the quality of your results and limit warranty claims. Machine wear or your own personal workload may increase depending on the application. Protect yourself and your machine, and preserve

your warranty claims by always using original Festool accessories and Festool consumable material!

The order numbers of the accessories and tools can be found in the Festool catalogue or on the Internet under "www.festoolusa.com".



WARNING

Risk of injury, electric shock

- Always pull the mains plug out of the socket before performing any type of work on the machine!

Saw blades, other accessories

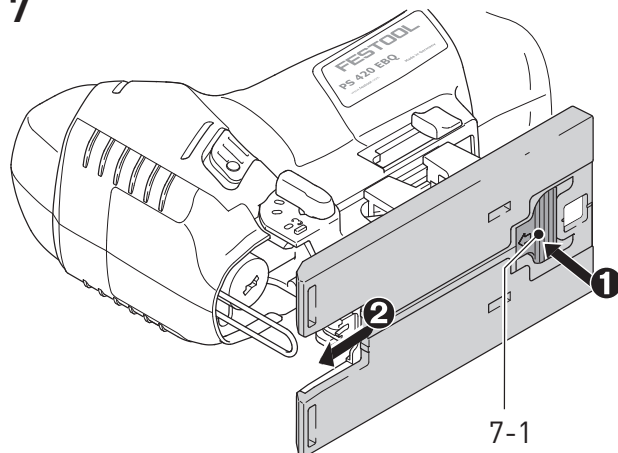
In order to saw different materials quickly and cleanly, Festool offers saw blades for all applications that are specially designed for your Festool jigsaw.

Sawing with special base runners

The special base runners protect high-quality surfaces against scratches and scores.

- Press in the base runner at position [7-1].
- At the same time, push the base runner forwards.
- Mount another base runner and push it to the rear until it engages.

7



Sawing with the angle table

The angle table WT-PS 400 is used for cutting pipes or interior and exterior angles up to 45°.



Dust extraction is not possible when sawing with the angle table!

Installing the angle table

- Remove the saw base [1-11], (see chapter).
- Position the angle table against the saw base support.
- Close the lever [1-9].

Ensure that the angle table is firmly seated in the guide.

Setting the angle

- Turn the adjusting wheel [8-1] to select the required angle.

You can select the angles -45°, 0° and +45° on the scale [8-2].



WARNING

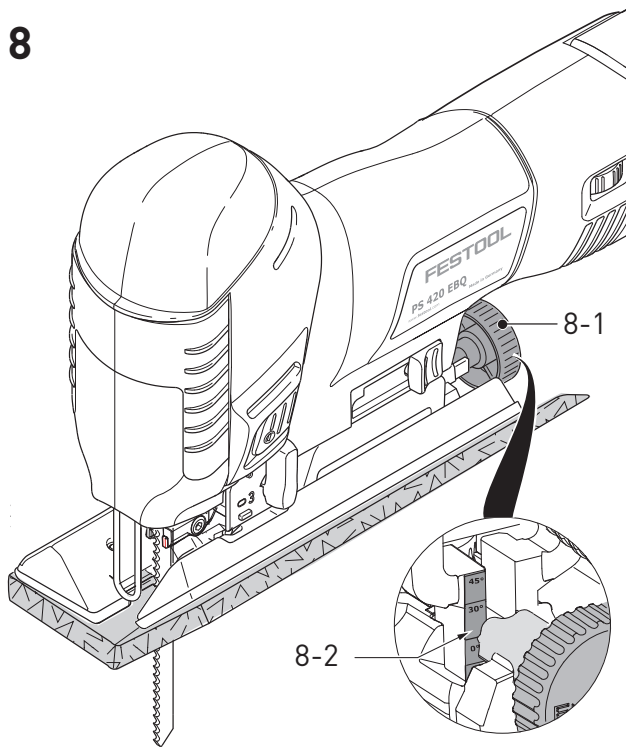
Sawing cutting depths

Risk of injury

- Select the saw blade length and cutting depth so that the saw blade remains plunged in the work-piece.

- ① For 90° cuts, we recommend setting the angle table to a small negative angle to guarantee smooth operation.

8



Sawing with the adaptation table

The adaptation table ADT-PS 400 is used for attaching your jigsaw to the Festool guide rail, the circle cutter KS-PS 400 and the CMS modular system.



With guide rail and circle cutter: do not exceed max. material thickness of 20 mm and always use cross-set saw blades (FSG).

Installing the adaptation table

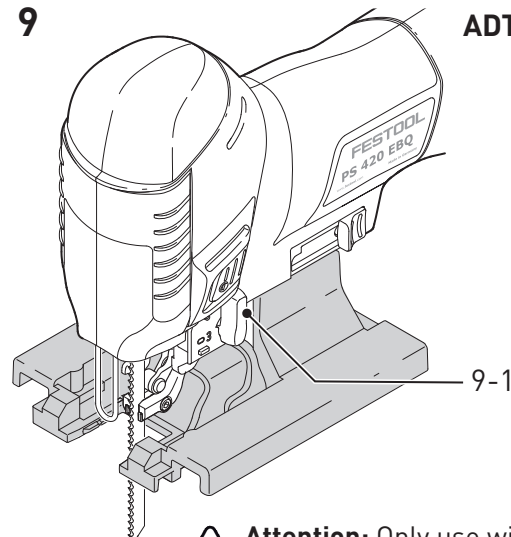
- ▶ Remove the saw table [1-11], (see chapter- Changing saw table).
- ▶ Mount the adaptation table [9-1] on the saw table support.
- ▶ Close the change lever [1-9].

Ensure that the adaptation table is firmly seated in the guide.

- ① Use the extractor connector [1-8] also with the adaptation table.

9

ADT-PS 400

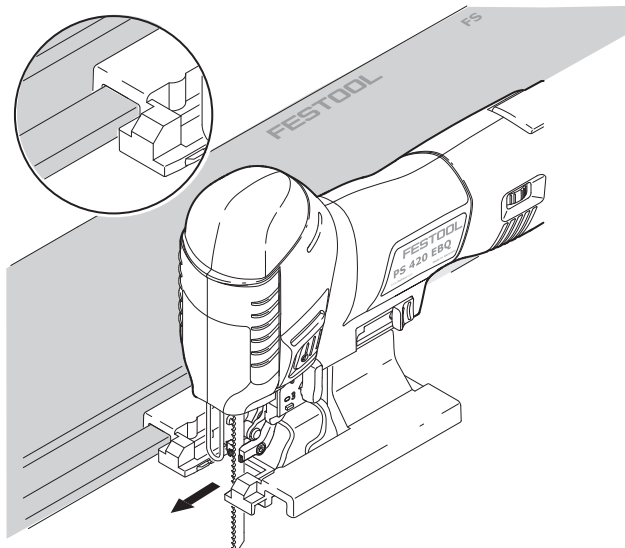


Attention: Only use with materials thinner than 20mm and cross-set sawblade!

Adaptation to the guide rail FS 2

The Festool guide system FS 2 (Fig. [10]) makes it much easier to manufacture straight precision cuts.

- ▶ Place the jigsaw with attached adaptation table [9-1] on the guide rail.



10

Adaptation to the circle cutter

The circle cutter can be used to create circular cuts with a diameter between 120 and 3000 mm. The circle cutter can be installed from both sides on the adaptation table.

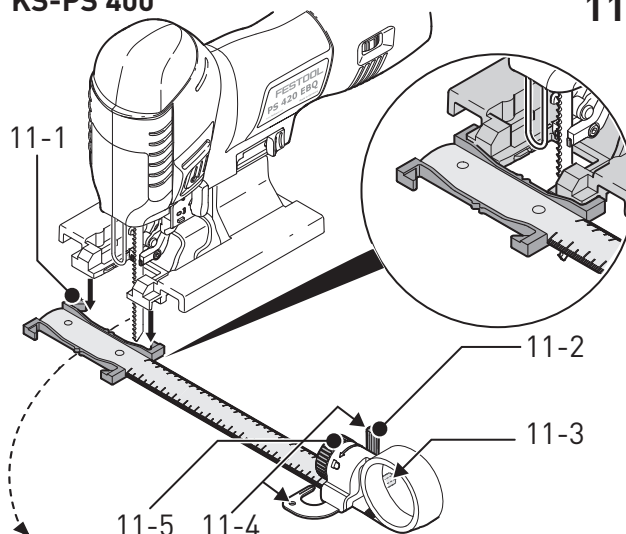
- ▶ Place the jigsaw with attached adaptation table on the adapter **[11-1]** on the circle cutter.
- ▶ Insert the centring mandrel **[11-2]** in the hole **[11-4]** on the circle cutter aligned with the saw blade.
- ▶ Clamp the measuring tape to the circle cutter using the rotary knob **[11-5]**.

Recommended when using the circle cutter:

- ▶ Cut in an anticlockwise direction.
 - ▶ Work at a slow rate of advance.
 - ▶ Set the pendulum stroke **[1-12]** to 0 - 1.
 - ▶ Set the stroke rate **[1-5]** to 1 - 5.
- ① Store the centring mandrel in the depot **[11-3]**.

KS-PS 400

11



Systainer

Systainer

Many Festool products are shipped in a unique system container, called "Systainer". This provides protection and storage for the tool and accessories. The Systainers are stackable and can be interlocked together. They also can be interlocked atop Festool CT dust extractors.

To open the Systainer



Turn the T-loc **[12-1]** to this position.

To lock the Systainer



Turn the T-loc **[12-1]** to this position.

To connect two Systainers

Place one Systainer on the top of the other (Fig. **[12 A]**).

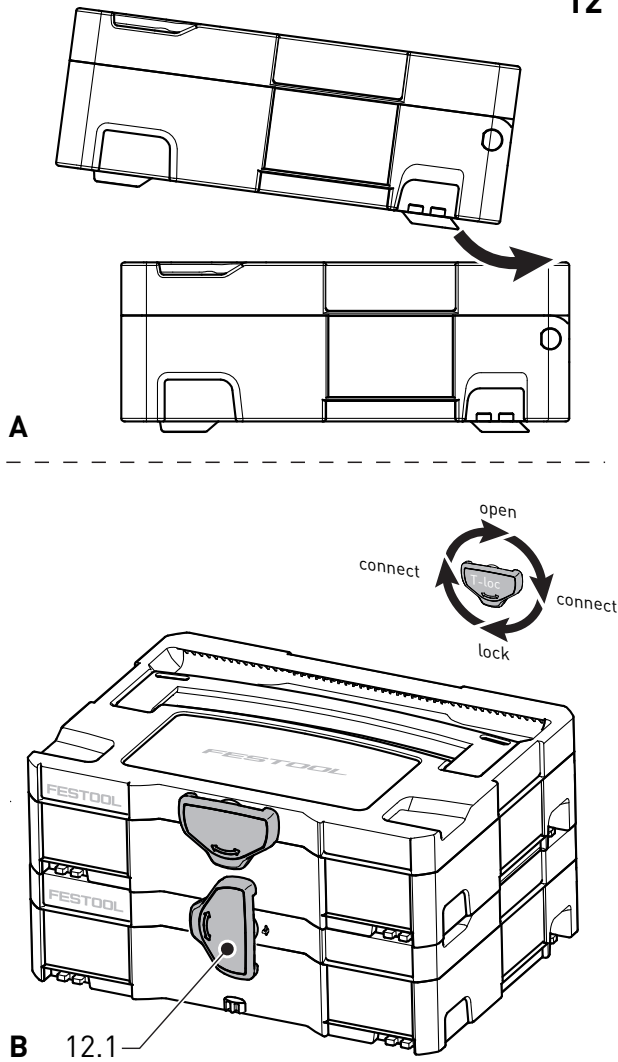


Turn the T-loc **[12-1]** to one of this positions (Fig. **[12 B]**).

The Systainers are connected and locked.

- ① A new generation Systainer is connectable on top of a previous generation Systainer by the four latches of the previous Systainer.

12



Service and maintenance



WARNING

Any maintenance or repair work that requires opening of the motor or gear housing should only be carried out by an authorised Customer Service Centre (name supplied by your dealer)!

- Maintenance or repair work carried out by an unauthorised person can lead to the wrong connection of the power cord or other components, which in turn can lead to accidents with serious consequences.



WARNING

Risk of injury, electric shock

- Always pull the mains plug out of the socket before performing any type of work on the machine!

Damaged safety devices and components must be repaired or replaced in a recognised specialist workshop, unless otherwise indicated in the operating manual.

To ensure constant air circulation, always keep the cooling air openings in the motor housing clean and free of any obstruction.

- Check the guidance roller regularly for wear.
- Regularly remove dust deposits from the chip

guard.
– Regularly clean the base runner to prevent

scratches and cores on the surface.

Environment

Do not throw the power tool in your household waste! Dispose of machines, accessories and packaging at an environmentally responsible recycling centre. Observe the valid national regulations.