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Instruction manual - router

Page 3

IMPORTANT: Read and understand all instructions before using.

Guide d'utilisation - Défonceuse

Page 14

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

Manual de instrucciones - Fresadora

Pagina 27

IMPORTANTE: Lea y comprende todas las instrucciones antes de usar.

Instruction manual
Guide d'utilisation
Manual de instrucciones

OF 1010 EQ



708203_001



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About this manual

Save these instructions

It is important for you to read and understand this manual. The information it contains relates to protecting **your safety** and **preventing problems**. The symbols below are used to help you recognize this information.

⚠ DANGER Description of imminent hazard and failure to avoid hazard will result in death.

⚠ WARNING Description of hazard and possible resulting injuries or death.


⚠ CAUTION Description of hazard and possible resulting injuries.

📌 NOTICE Statement including nature of hazard and possible result.

💡 HINT Indicates information, notes, or tips for improving your success using the tool.

Safety rules

General Power Tool Safety Warnings

 **WARNING! Read all safety warnings and all instructions.** Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference.

The term “power tool” in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

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) 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 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.
- 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 a 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 and clothing 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 the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.

- d) **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.

- e) **Maintain power tools and accessories. 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.

Specific Safety Rules

- a) **Hold power tool by insulated gripping surfaces, because the cutter may contact its own cord.** Cutting a "live" wire may make exposed metal parts of the power tool "live" and shock the operator.

- b) **Use clamps or another practical way to secure and support the workpiece to a stable platform.** Holding the work by your hand or against the body leaves it unstable and may lead to loss of control.

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:

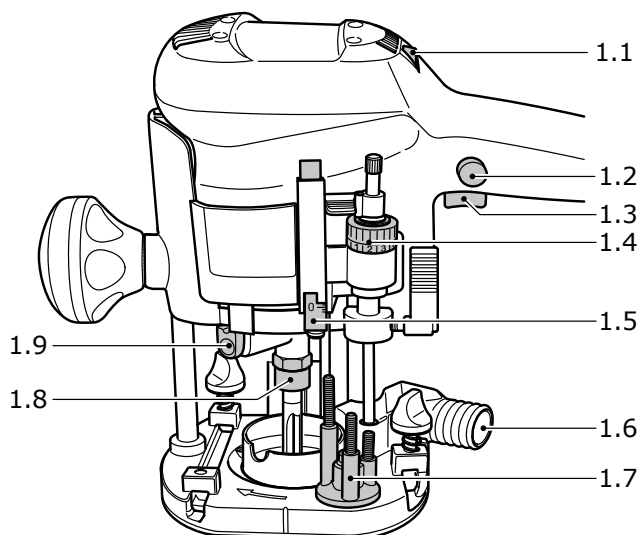
- Lead from lead-based paints,
- Crystalline silica from bricks and cement and other masonry products,
- Arsenic and chromium from chemically-treated lumber.

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 use approved safety equipment, such as dust masks that are specially designed to filter out microscopic particles.

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



Technical data

Power input	1010 W (8.4 A)
Speed of drive shaft	9 500 - 23 000 rpm
Quick height adjustment	2-1/8" (55 mm)
Fine height adjustment	5/16" (8 mm)
Drive shaft connection of the spindle	M 16x1.5
Weight	6 lbs. (2.7 kg)
Protection class	□ / II

Symbols



Warning of general danger



Read the Operating Instructions/Notes!



Wear a dust mask.



Wear protective goggles!

V volts

A amperes

Hz hertz

W watt

~ alternating current

n_0 no load speed

□ Class II Construction

rpm revolutions or reciprocation per minute

Functional description

- 1.1 Speed controller
- 1.2 Locking button
- 1.3 On/Off switch
- 1.4 Depth adjustment
- 1.5 Scale
- 1.6 Extractor connection piece
- 1.7 Pivoted turret stop
- 1.8 Collet nut
- 1.9 Spindle stop

Use for intended purpose

The routers are designed for routing wood, plastics and similar materials. Aluminium and plasterboard can also be processed with corresponding cutters such as are listed in the Festool catalogues.

⚠ WARNING Festool electric power tools should only be installed in work benches specially designed by Festool. The electric power tool may

become unsafe and cause serious accident if installed in benches from other manufacturers or self-manufactured work benches.

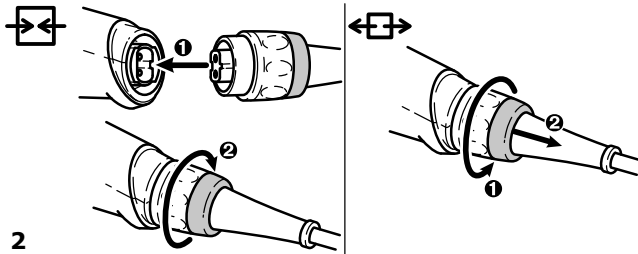
⚠ WARNING The user is liable for damages and injuries due to incorrect usage.

Electrical connection

The network voltage must conform to the voltage indicated on the rating plate. A 16 A safety fuse (for 120 V) or a corresponding protective circuit-breaker is required.

See the figure aside for connection and disconnection of the power cable.

⚠ WARNING Always switch the machine off before connecting or disconnecting the power cable!



Extension cable

If an extension cable is required, it must have a sufficient cross-section so as 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 shows you the correct cable diameter as a function of the cable length for the router OF 1010 EQ. Use only U.L. and CSA listed extension cables. Never use two extension cables together. Instead, use one long one.

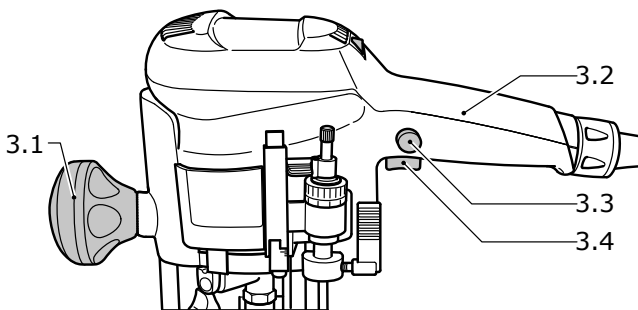
Note: The lower the AWG number, the stronger the cable.

Total Extension Cord Length (feet)	25	50	100	150
Cord size (AWG)	18	16	14	12

Switching the machine on and off

⚠ WARNING Keep the machine steady during switching and during use by holding the handle (3.2) and the additional handle (3.1) with both hands.

The switch (3.4) is used to switch the tool on and off. For continuous operation the switch can be locked by means of the button on the side (3.3). The switch can be unlocked by pressing again.



⚠ WARNING After the machine has been switched off, the milling cutter will still rotate for a time. Take care that parts of your body do not come into contact with the milling cutter while it is still rotating!

Electronics

⚠ WARNING Do not work with the OF 1010 EQ if the electronic control is defective since this may lead to excessive speeds. A defect in the electronic control is indicated by the absence of a smooth run-up, a higher noise level at idle or the fact that no speed control is possible.

Material	Cutter diameter			Cutter material
	1/8" -	5/8" -	1-1/8" -	
	1/2" 3-14 mm	1" 15-25 mm	1-3/8" 26-35 mm	
Hard wood	6-4	5-3	3-1	HW/HSS
Soft wood	6-5	6-3	4-1	HSS/HW
Panels	6-5	6-3	4-2	HW
Plastic	6-4	5-3	2-1	HW
Aluminium	3-1	2-1	1	HSS/HW
Plasterboard	2-1	1	1	HW

The router OF 1010 EQ has solid shaft electronics with the following functions:

Smooth start-up:

The electronically controlled smooth start-up facility enables start-up of the machine without jerks and requires a lower start-up current.

Speed regulation:

Using the electronic speed control (1.1) the motor speed can be continuously adjusted from 9 500 and 23 000 rpm.

The table aside offers a guide to the correct electronic setting for various materials. The settings are naturally infinitely variable.

Constant speed:

The selected motor speed is electronically maintained to a constant level. By this means a uniform cutting speed is achieved.

Temperature protection:

Extreme overloading during continuous use leads to the motor overheating. To protect against overheating (burnout of the motor) an electronic temperature monitor is installed. Before a critical motor temperature is reached, the safety electronics switch the motor off. After a cooling down time of about 3 to 5 minutes, the machine is ready for operation again and can be fully loaded. The cooling down time can be reduced considerably if the machine is allowed to idle.

Tool settings

⚠ WARNING Always disconnect the plug from the power supply before making any adjustments to the router or installing or removing any accessory!

Chips extraction

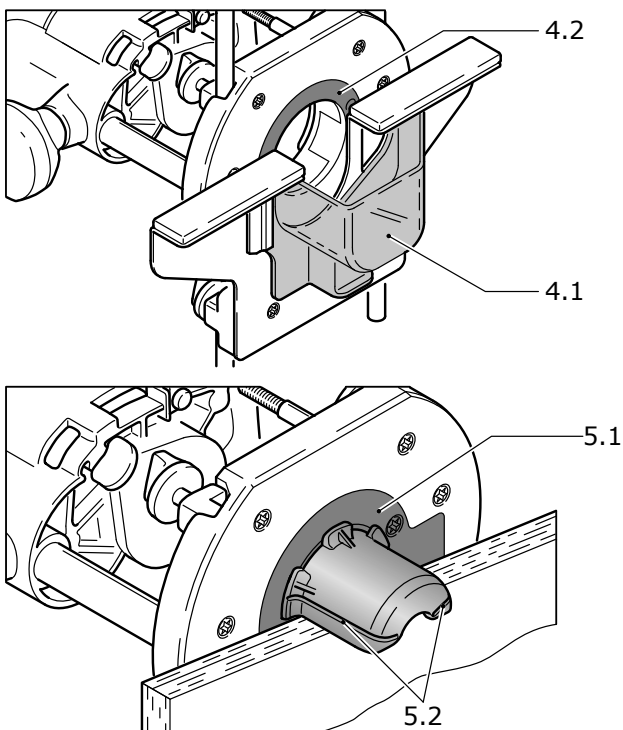
A connection for extracting dust and chips (1.6) is a standard feature on the routers.

At the same time a chip guard (4.1) on the parallel guide (accessory) prevents flying chips. With edge routing, the best extraction effect is obtained with the extractor hood AH-OF (accessory).

KSF-OF chip catcher

Using the KSF-OF chip catcher (sometimes included in the scope of delivery), the efficiency of the extraction can be increased when routing edges.

Fasten the KSF-OF chip catcher (5.1) to the platen instead of the cover ring (4.2) from below.



The hood can be cut off along the grooves (5.2) using a hacksaw and can thus be reduced in size. The chip catcher can then be used for interior radii up to a minimum radius of 1-1/2" (40 mm).

Milling cutters

⚠ WARNING Do not exceed the maximum speed specified on the tool and/or keep to the speed range. Cracked or distorted cutters must not be used.

We recommend that milling cutters with diameters over 1-3/16" (30 mm) should not be used with this machine.

Inserting the tool

- Insert the router (6.3) into the open clamping collet as far as possible, but at least up to the mark ∇ on the router shank.
- Turn the spindle until the spindle stop (6.1) catches when pressed and the spindle is locked in place.
- Tighten the collet nut (6.2) with a 3/4" (19 mm) open-end spanner.

Removing the tool

- Turn the spindle until the spindle stop (6.1) catches when pressed and the spindle is locked in place.
- Loosen the collet nut (6.2) using a 3/4" (19 mm) open-ended spanner until a resistance is felt. Overcome this resistance by turning the open-ended spanner even further.
- Remove the cutter.

Clamping collet changing

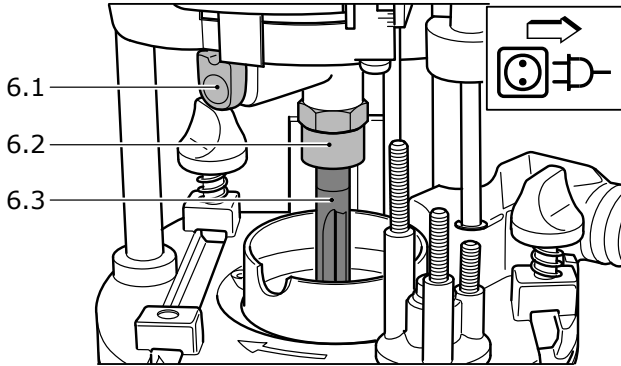
- Fully unscrew the collet nut (6.2) and remove from spindle together with the clamping collet.
- Only insert a new clamping collet in the spindle when the nut is attached and engaged, then tighten the nut slightly. Do not tighten the collet nut until a milling cutter has been fitted!

Adjusting the milling depth

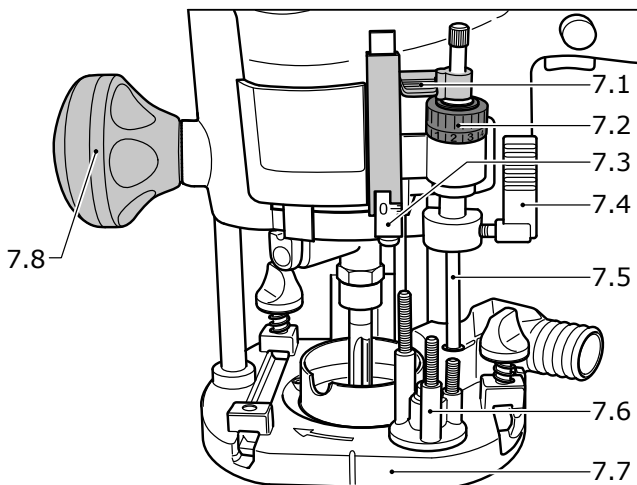
The milling depth is adjusted in three stages:

a) Setting the zero point

- Open the clamping lever (7.4) so that the stop cylinder (7.5) can be moved freely.
- Place the router with router table (7.7) onto a smooth surface. Open the rotary knob (7.8) and press the machine down until the milling cutter rests on the base. Clamp the machine tight in this position with the rotary knob (7.5).



Cutter shank	Clamping collet	
	Ø	Order-No.
Ø 1/4" (6,35 mm)	1/4"	488 765
Ø 8 mm	8 mm	488 763



Sensing stop		min. height	max. height
Sensing stop / Butée fixe / Tope fijo	A	1-1/2"	1-11/16"
	B	1-11/16"	2-1/8"
Δ	C	2-1/8"	2-5/8"

- Press the stop cylinder against one of the three sensing stops of the pivoted turret stop (7.6).
- The individual height of each sensing stop can be adjusted with a screwdriver.
- Push the pointer (7.1) down so that it shows 0" on the scale (7.3).

b) Setting the milling depth

The desired milling depth can be set either with the quick depth adjustment or with the fine depth adjustment.

- Quick depth adjustment: Pull the stop cylinder (7.5) up until the pointer shows the desired milling depth. Clamp the stop cylinder in this position with the clamping lever (7.4).
- Fine depth adjustment: Lock the stop cylinder with the clamping lever (7.4). Set the desired milling depth by turning the adjusting wheel (7.2) in. Turn the adjusting wheel to the next mark on the scale to adjust the milling depth by 0.004" (0.1 mm). One full turn adjusts the milling depth by aprox. 1/16" (1 mm). The maximum adjustment range with the adjusting wheel is 5/16" (8 mm).

c) Increasing the milling depth

Open the rotary knob (7.8) and press the tool down until the stop cylinder touches the sensing stops.


Working with the router

⚠ WARNING Always secure the workpiece in such a manner that it cannot move while being sawed.

⚠ WARNING The machine must always be held with both hands by the designated handles.

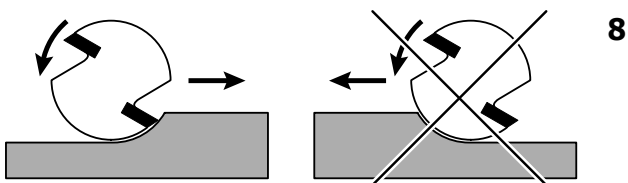
⚠ WARNING Always switch the router on first before bringing the tool into contact with the workpiece!

⚠ WARNING Always advance the router in the same direction as the cutting direction of the cutter [counter-routing]!

 You should wear a dust mask for work which produces dust.

Support of the workpieces

⚠ WARNING Ensure that your workpieces are securely fixed and cannot move during routing. Otherwise, there is an increased risk of accident. Use screw clamps or some other suitable devices to fix your workpiece.



Aluminium processing

⚠ WARNING The following precautions are to be taken when processing aluminium for safety reasons:

- Pre-connect a residual current circuit-breaker.
- Connect the machine to a suitable dust extractor.
- Clean tool regularly of dust accumulations in the motor housing.



Wear protective goggles!

Freehand routing

Freehand routing is the method normally used for lettering or shapes, and for routing edges using cutters with a guide pin or ring.

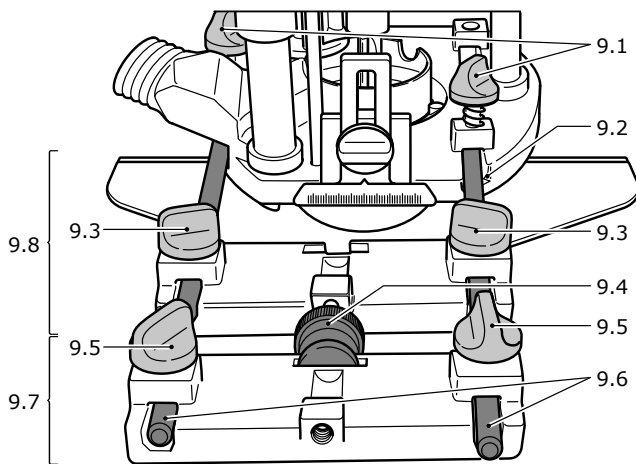
Routing with the parallel guide

The parallel guide (9.8) (accessory) can be used for routing parallel to the edge of the workpiece.

- Clamp the two guide rods (9.6) to the parallel guide with the rotary knobs (9.3).
- Push the guide rods into the grooves (9.2) of the router table until the desired distance between the router and workpiece edge is reached. Clamp the guide rods tight with the rotary knobs (9.1).

This distance can be adjusted faster and more precisely with the fine precision adjustment (9.7) (accessory).

- Turn the adjusting screw (9.4) in the plastic part of the guide.
- Clamp the guide rods with the rotating knobs (9.5) in the precision adjustment.
- Loosen the rotating knobs (9.3) of the parallel guide, set the desired distance with the adjusting screw and retighten the rotating knobs.



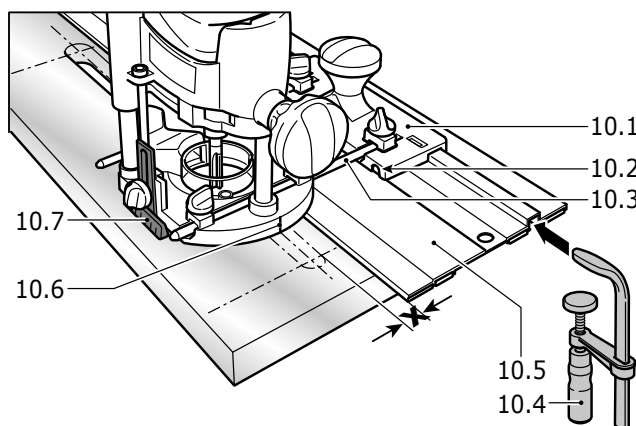
Routing with the TV-OF extension table

The extension table TV-OF (accessory) can be used to enlarge the support area of the router and thus improve guidance, e.g. when routing close to edges. The extension table is fitted in the same way as the parallel guide.

Routing with the FS guide system

The guide system (accessory) facilitates routing straight grooves.

- Fasten the guide stop (10.1) to the platen with the guide rails (10.3) of the parallel guide.



- Fasten the guide rail (10.5) with FSZ screw clamps (10.4) to the workpiece. Make sure that the safety distance X of 7/32" (5 mm) between the front edge of the guide rail and cutter or groove is observed.
- Place the guide stop onto the guide rail as shown in Fig. 10. To ensure a backlash-free guidance of the router stop you can adjust two guide cheeks with a screwdriver through the side openings (10.2).
- Screw the height-adjustable support (10.7) of the router table's threaded bore in such a way that the underside of the router table is parallel to the surface of the workpiece.

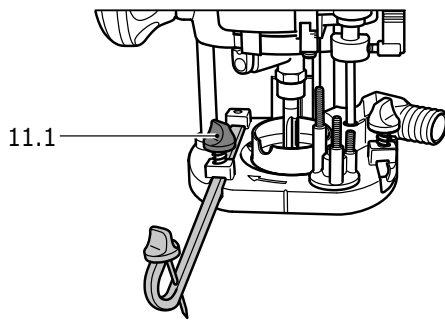
When working with marking-up lines, the marks on the platen (10.6) and the scale on the support (10.7) show the centre axis of the cutter.

Routing with the SZ-OF 1000 beam compasses

With the SZ-OF 1000 beam compasses (accessory) you can make circular cuts or segments of circles with diameters from 6" to 29-7/8" (153 - 760 mm).

- The beam compasses are pushed into the front groove of the platen until the desired radius is set.
- Lock the beam compasses with the rotating knob (11.1).

Practical hint: To prevent the tip of the compasses from making a hole in the workpiece, fix a thin board at the centre point by means of double-sided adhesive tape.



Copy cutting

A copying ring or the copying device is used to exactly reproduce existing workpieces (both available as accessories).

- It comes with an adapter plate for imperial templet guides included.

a) Copying ring

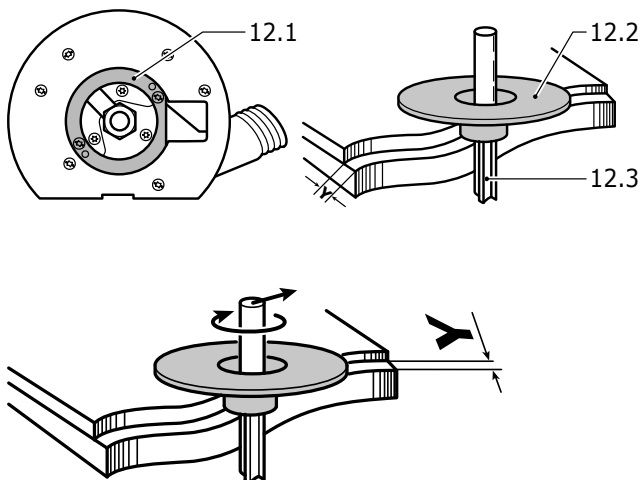
- Fasten the copying rings (12.2) to the platen instead of the cover ring (12.1) from below.

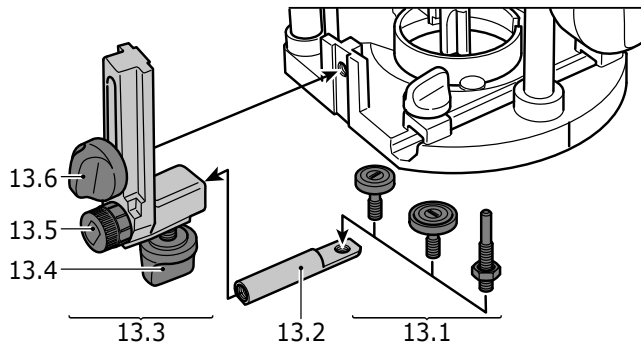
CAUTION When choosing the size of the copying ring (12.2) make sure that the cutter used (12.3) fits through the ring's opening.

The distance Y between the workpiece and template is calculated by:

$$Y = 1/2 (\text{Ø copying ring} - \text{Ø cutter}) / 2$$

The copying ring can be centred exactly with the centring cone ZD-OF (Order No. 486035)





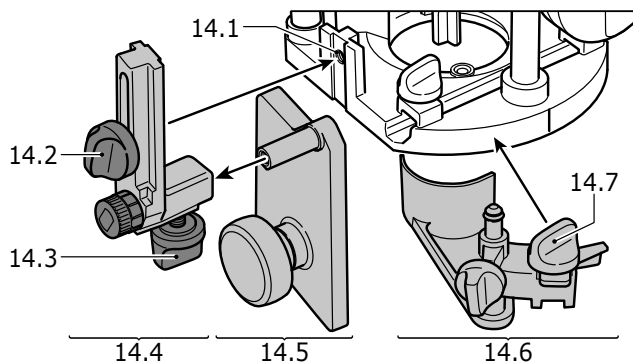
b) Copying device

The angle arm WA-OF (13.3) and copier scanning set KT-OF, consisting of roller holder (13.2) and three copying rollers (13.1), are required for the copying device.

- Screw the angle arm at the desired height in the platen's threaded bore (13.7) with the rotating knob (13.6).
- Fit a copying roller in the roller holder and bolt this to the angle arm with the rotating knob (13.4). Make sure that the copying roller and cutter have the same diameter!
- Turn the adjusting wheel (13.5) to adjust the distance between the copying roller and cutter axis.

Edge band trimming

Protruding edge bands can be flush trimmed with the angle arm WA-OF (14.4) in connection with the guide plate UP-OF (14.5) (accessories).



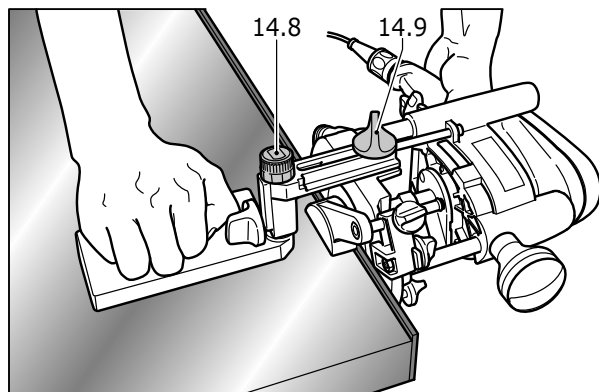
- Screw the angle arm into the platen's threaded bore (14.1) with the rotating knob (14.2).

- Bolt the guide plate to the angle arm with the rotating knob (14.3).

- Adjust the milling depth so that this is equal to the thickness of the edge band + 1/16" (2 mm).

- Move the guide plate (14.5) as close as possible to the cutter by loosening the rotating knob (14.9).

- Adjust the depth of the guide plate with the adjusting wheel (14.8) so that during trimming a few decimillimetres of the edge band are left protruding which can then be sanded down by hand.



The chip guard SF-OF (14.6) (accessory) improves dust extraction when trimming edge bands. It is fastened to the side of the platen with the rotating knob (14.7) and cover the cutter from above during work.

Accessories, tools

⚠ WARNING For safety reasons, only use original Festool accessories and tools!

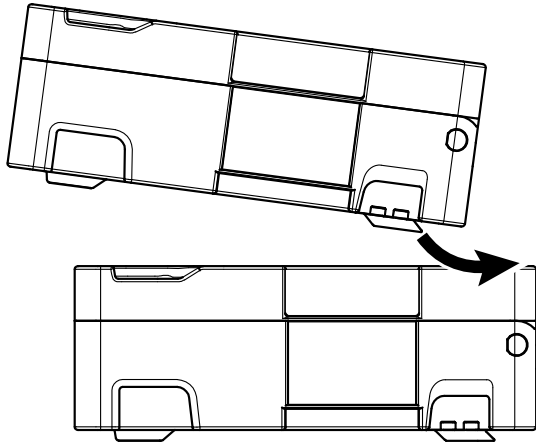
Festool offers a wide range of accessories for the routers, e.g. to make wooden joints or drill rows of holes.

The accessory and tool order number can be found in the Festool catalogue or on the Internet under www.festoolusa.com.

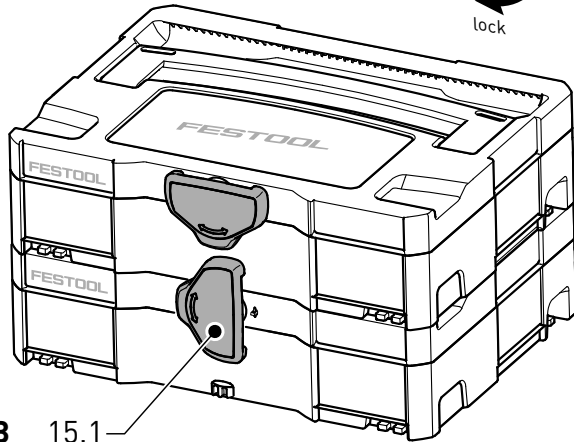
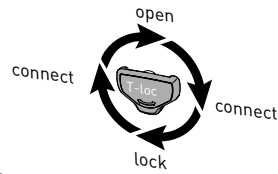
Systainer

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

15




A




B 15.1

together. They also can be interlocked atop Festool CT dust extractors.



– To open the Systainer:

- Turn the T-loc [15.1] to the position .

– To lock the Systainer:

- Turn the T-loc [15.1] to the position .

– To connect two Systainers:

- Place one Systainer on the top of the other (Fig. 15 A).
- Turn the T-loc [15.1] to the position  or  (Fig. 15 B).

The Systainers are connected and locked.

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

Servicing 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 leads or other components, which in turn can lead to accidents with serious consequences.

⚠ WARNING To prevent accidents, always remove the plug from the power supply socket before carrying out any maintenance or repair work on the machine! Do not use compressed air to clean the electrical tool! Do not try to clean parts inside the machine in this way, as you could let foreign objects in through the openings of the machine housing.

⚠ CAUTION Certain cleaning agents and solvents are harmful to plastic parts. Some of these are: gasoline, carbonyl chloride, cleaning solutions containing chlorine, ammonia and household cleaners containing ammonia. To assure the circulation of air, the cool air vents in the motor housing must always be kept clear and clean.

This unit is fitted with special, automatically disconnecting carbon brushes. If these become worn, the current is automatically switched off and the unit shuts down. In this case, take the unit to an authorised Customer Service Centre and have the carbon brushes changed.



Customer service and repair only through manufacturer or service workshops: Please find the nearest address at: www.festoolusa.com/service



Use only original **Festool spare parts!** Order No. at: www.festoolusa.com/service