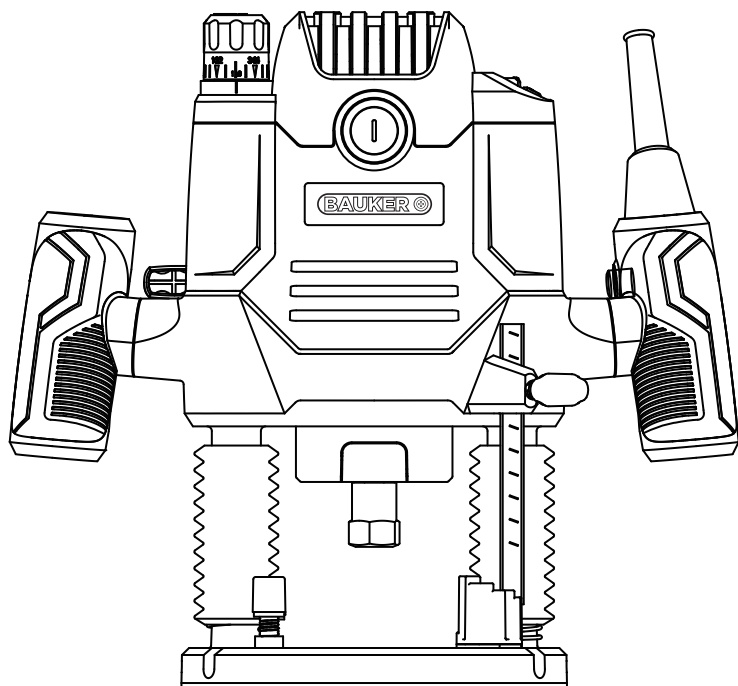




**PRT210GH**



**2100W ROUTER**  
**ORIGINAL INSTRUCTION MANUAL**

## SAFETY INFORMATION



### **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**

- a) Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
- b) 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.

**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. 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.

**5) Service**

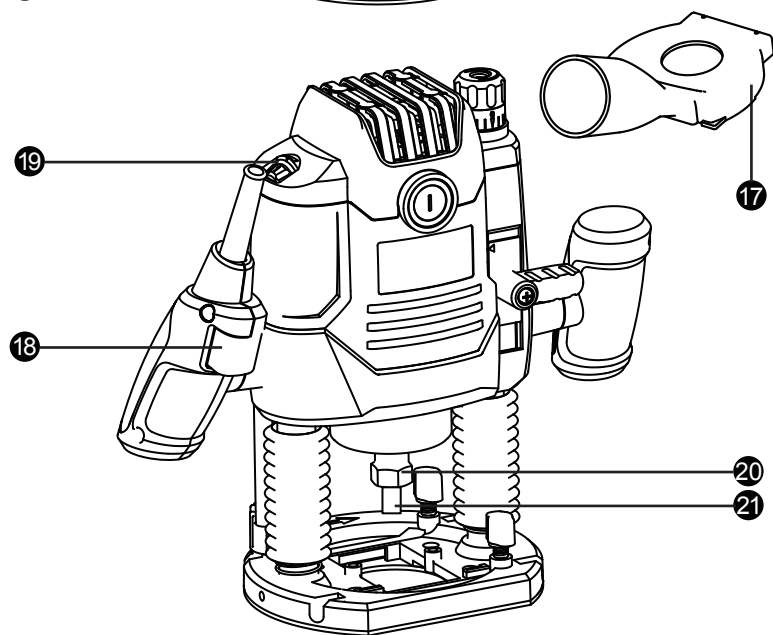
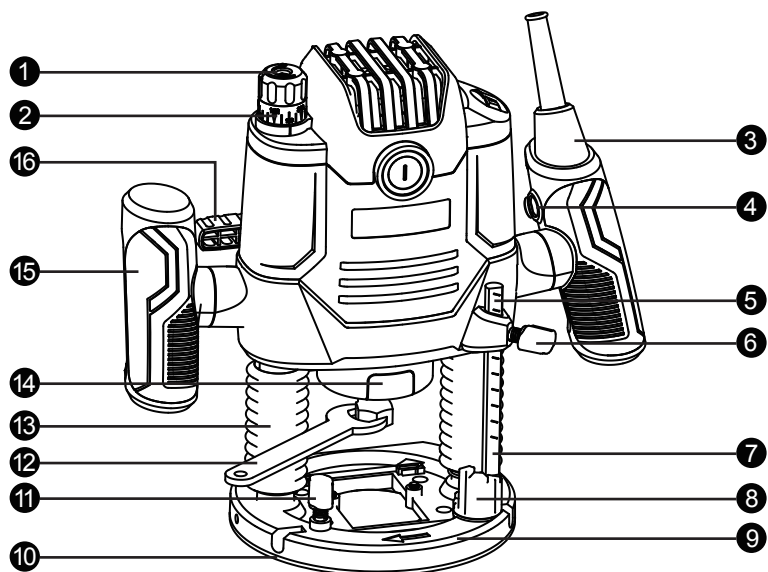
- a) Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.

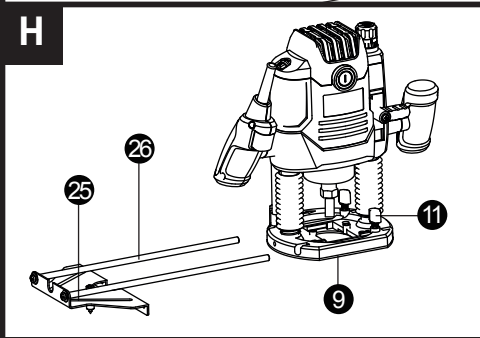
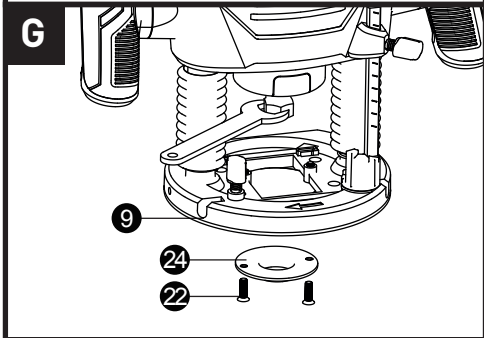
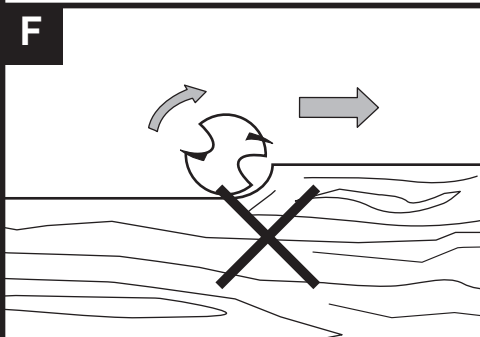
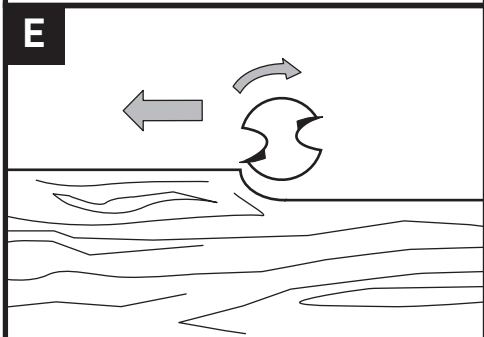
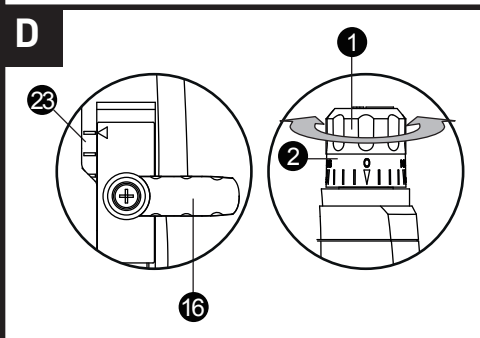
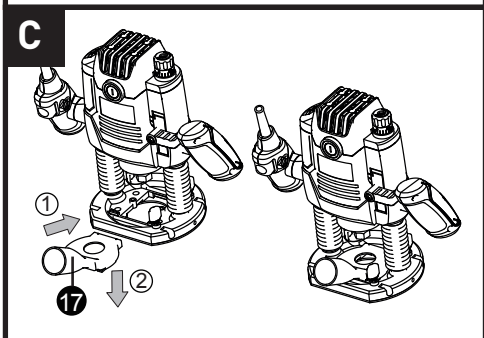
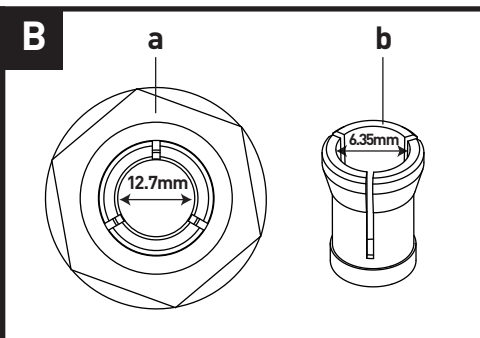
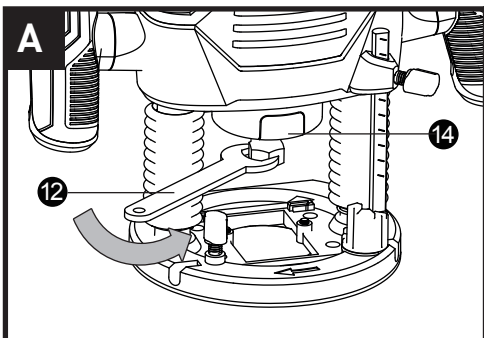
## **ROUTER SAFETY WARNINGS**

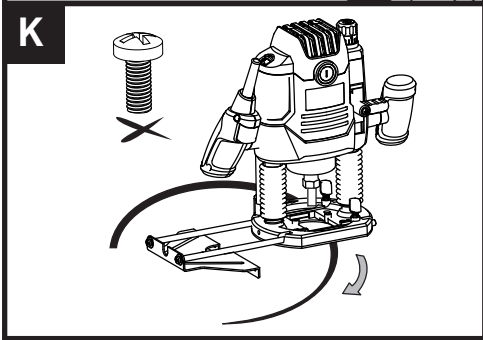
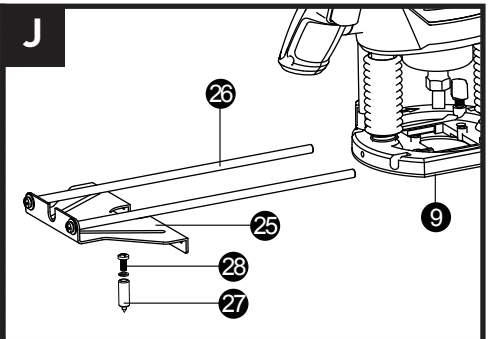
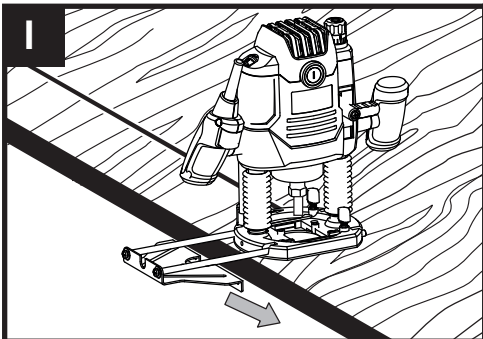
- **Hold power tool by insulated gripping surfaces, because the cutter may contact its own cord.** Cutting a “live” wire may make exposed metal parts of the power tool “live” and shock the operator.
- **Use clamps or another practical way to secure and support the workpiece to a stable platform.** Holding the work by your hand or against the body leaves it unstable and may lead to loss of control.

## **ADDITIONAL SAFETY INSTRUCTIONS FOR ROUTER**

1. Always wear a dust mask.









# SYMBOLS



To reduce the risk of injury, please read the instruction manual



Warning



Wear ear protection



Wear eye protection



Wear dust mask



Double insulation




Waste electrical products must not be disposed of with household waste. Please recycle where facilities exist. Check with your local authorities or retailer for recycling advice.



# COMPONENT LIST

<b>1. FINE-ADJUSTMENT KNOB FOR DEPTH-OF-CUT</b>	<b>15. LEFT HANDLE</b>
<b>2. SCALE FOR FINE ADJUST MENT OF DEPTH-OF-CUT</b>	<b>16. CLAMPING LEVER</b>
<b>3. RIGHT HANDLE (WITH ON/OFF SWITCH)</b>	<b>17. DUST ADAPTER</b>
<b>4. LOCK-OFF BUTTON</b>	<b>18. ON/OFF SWITCH</b>
<b>5. INDEX MARK</b>	<b>19. VARIABLE SPEED CONTROL</b>
<b>6. WING SCREW FOR DEPTH STOP</b>	<b>20. THUMB WHEEL</b>
<b>7. DEPTH STOP</b>	<b>21. TIGHTENING NUT WITH COLLET ROUTER BITS</b>
<b>8. STEP BUFFER</b>	<b>22. FIXING SCREWS (SEE FIG G)</b>
<b>9. BASE PLATE</b>	<b>23. MARKINGS FOR ZERO-RESET (SEE FIG D)</b>
<b>10. GUIDE PLATE</b>	<b>24. GUIDE BUSHING (SEE FIG G)</b>
<b>11. LOCKING SCREW FOR GUIDE ROD</b>	<b>25. PARALLEL GUIDE (SEE FIG H)</b>
<b>12. SPANNER</b>	<b>26. GUIDE RODS (SEE FIG H)</b>
<b>13. DUST BOOTS</b>	<b>27. CENTRE PIN (SEE FIG J)</b>
<b>14. SPINDLE LOCK BUTTON</b>	<b>28. WING BOLT (SEE FIG J)</b>

## TECHNICAL DATA TABLE

Rated voltage	230-240V~ 50Hz
Rated power	2100 W
Rated no-load speed	8000-23000 / min
Collet size	Φ6.35 mm & 12.7 mm
Max plunge depth	60 mm
Double insulation	 /II
Machine weight	4.36 kg

## ACCESSORIES

Center pin	1
Parallel guide	1
Template guide (30 mm)	2
Spanner	1
Collet (6.35 mm)	1
Collet (12.7 mm)	1
Dust extraction tube	1
Router bits	1

We recommend that you purchase your accessories from the same store that sold you the tool. Choose the type according to the work you intend to undertake. Refer to the accessory packaging for further details. Store personnel can assist you and offer advice.

# NOISE INFORMATION

A weighted sound pressure	$L_{pA} = 99.4 \text{ dB(A)}$
A weighted sound power	$L_{wA} = 110.4 \text{ dB(A)}$
	$K_{pA} \text{ \& } K_{wA} : 3.0 \text{ dB(A)}$


**Wear ear protection.**




## Vibration Information

Vibration total values (triax vector sum) determined according to EN 60745:	
Typical weighted vibration	Vibration emission value: $a_h = 3.13 \text{ m/s}^2$
	Uncertainty $K = 1.5 \text{ m/s}^2$

The declared vibration total value may be used for comparing one tool with another, and may also be used in a preliminary assessment of exposure.

 **WARNING:** The vibration emission value during actual use of the power tool can differ from the declared value depending on the ways in which the tool is used dependant on the following examples and other variations on how the tool is used:  
How the tool is used and the materials being cut or drilled.  
The tool being in good condition and well maintained  
The use the correct accessory for the tool and ensuring it is sharp and in good condition.  
The tightness of the grip on the handles and if any anti vibration accessories are used.  
And the tool is being used as intended by its design and these instructions.

**This tool may cause hand-arm vibration syndrome if its use is not adequately managed.**

 **WARNING:** To be accurate, an estimation of exposure level in the actual conditions of use should also take account of all parts of the operating cycle such as the times when the tool is switched off and when it is running idle but not actually doing the job. This may significantly reduce the exposure level over the total working period.  
Helping to minimize your vibration exposure risk.  
ALWAYS use sharp chisels, drills and blades.  
Maintain this tool in accordance with these instructions and keep well lubricated (where appropriate).  
If the tool is to be used regularly then invest in anti vibration accessories.  
Avoid using tools in temperatures of 10°C or less.  
Plan your work schedule to spread any high vibration tool use across a number of days.

# OPERATING INSTRUCTIONS



**NOTE:** Before using the tool, read the instruction book carefully.

## Intended Use

This tool is intended for routing grooves, edges, profiles and elongated holes as well as for copy routing in wood, plastic and light building materials, while resting firmly on the workpiece.

## 1. INSERT THE ROUTER BIT

### Router Bit Selection

Depending on processing and application, router bits are available in many different designs and qualities:

**Router bits made of high-speed steel (HSS)** is suitable for the machining of soft materials, e. g. softwood and plastic.

**Carbide tipped router bits (HM)** is particularly suitable for hard and abrasive materials, e. g. hard wood and aluminum.



**WARNING:** Use only routing tools with an allowable speed matching at least the highest no load speed of the tool. The shank diameter of the router bit must correspond with the rated diameter of the collet.

### Inserting Router Bits (See Fig A)

Before any work on the tool itself, disconnect the mains plug. It is recommended to wear protective gloves when inserting or replacing router bits.

Press spindle lock button (14) and keep depressed. If required, turn the spindle by hand until the lock engages.

Press the spindle lock button only when at a standstill.

Insert router bit. The shank of the router bit must be inserted at least 16mm (shank length).

Tighten the tightening nut (20) with the spanner (12) . Release the spindle lock button.



**WARNING:** Do not tighten the tightening nut of the collet without a router bit inserted.

### HOW TO FIT THE 6.35mm COLLET (See Fig B)

This router is supplied with a 6.35mm collet as an accessory.

To fit the 6.35mm collet (b) simply slide it into the 12.7mm collet (a) fitted to the collet nut.

The 6.35mm collet has a flange collar to ensure insertion to correct depth.

**NOTE:** 1. Do not attempt to remove the 12.7mm collet from the collet nut.

2. Always wear safety gloves when changing the router bits.

## 2. MOUNTING THE EXTRACTION ADAPTER (SEE FIG C)

To connect the vacuum cleaner via a suction hose, you can fasten dust adapter (17) to base plate (9) directly.



**WARNING:** When mounting the extraction adapter, ensure correct mounting position!

- For dust extraction, the vacuum hose can be connected directly to the extraction adapter.
- Clean the dust adapter (17) regularly to ensure optimum dust extraction at all times.
- The vacuum cleaner must be suitable for the material to be worked.
- When vacuuming dry dust that is especially detrimental to health or carcinogenic, use a special vacuum cleaner.

## 3. ON AND OFF SWITCH

### LOCK-OFF SWITCH

For starting operation of the tool, actuate the lock-off button (4) first, then press and hold the On/Off switch (18) afterwards. To switch off the tool, release the On/Off switch (18).

**For safety reasons the On/Off switch of the tool cannot be locked; it must remain pressed during the entire operation.**

### Speed Pre-selection

The required speed can be pre-selected with the thumb-wheel (19) (also whilst running).

1 – 2 = low speed

3 – 4 = medium speed

5 – 6 = high speed

The required speed is dependent on the material and can be determined by practical testing. After longer periods of working at low speed, allow the tool to cool down by running it for approx. 3 minutes at maximum speed with no load.

### Speed Table

Material	Router bit-Ø	Speed stages
Hardwood (Beech)	4 – 10 mm	5–6
	12 – 20 mm	3–4
	22 – 40 mm	1–2
Softwood (Pine)	4 – 10 mm	5–6
	12 – 20 mm	3–6
	22 – 40 mm	1–3
Particle board	4 – 10 mm	3–6
	12 – 20 mm	2–4
	22 – 40 mm	1–3

Plastic	4 – 15 mm	2–3
	16 – 40 mm	1–2
Aluminium	4 – 15 mm	1–2
	16 – 40 mm	1

The values shown in the chart are standard values. The necessary speed depends on the material and the operating conditions, and can be determined by practical testing.

### Constant Electronic Control and Soft Start

Constant electronic control maintains the speed constant at no-load and under most working conditions. Soft start delays the increase in motor speed to reduce the motor “kick” or torque effect to improve operator comfort and safety.

## 4. SETTING THE DEPTH-OF-CUT

Depending on the cutting operation, the depth-of cut can be preset in several steps.



**WARNING:** The adjustment of the depth-of-cut may only be carried out when the router is switched off.

### Coarse Adjustment of the Depth-of-cut

Place the router on the work-piece to be tool.

Set the fine adjustment for depth-of-cut in the centre position with fine-adjustment knob (1); to do this, turn the fine-adjustment knob until the markings (23) on the backside of the router are in alignment, as shown. Afterwards turn scale (2) to “0” (SEE FIG D). Set step buffer (8) to the lowest position; the buffer snaps-in noticeably.

Loosen locking screw (6), so that depth stop (7) can be moved freely.

Release the clamping lever (16) by turning in clockwise direction and slowly lower the router until the router bit touches the surface of the workpiece. Lock the router in position by turning the clamping lever in anti-clockwise direction.

Press depth stop downwards until it touches the step buffer (8). Adjust the depth stop (7) to the required routing depth and tighten the wing screw (6). Release the clamping lever and guide the router back up again.

The coarse adjustment of the depth-of-cut should be checked by a trial cut and corrected, if necessary.

### Fine Adjustment of the Depth-of-cut

After a trial cut, fine adjustment can be carried out by turning the fine adjustment knob (**1 scale mark = 0.1mm / 1 rotation = 2.0mm**). The maximum adjustment is approx. +/- 8mm.

**Example:** Slide router upwards again and measure the depth-of-cut (set value =

10.0mm; actual value = 9.8mm).

Lift up router and underlay guide plate (10) in such a manner that the router can plunge freely without the router bit touching the work-piece. Lower the router again until the depth stop touches the step buffer (8).

Afterwards set scale (2) to "0".

Loosen wing screw.

With the fine adjustment (1), advance the depth-of-cut in clockwise direction by 0.2mm / 2 scale marks (= difference between required value and actual value).

Retighten wing screw again.

Slide router upward again and check depth-of-cut by carrying out another trial cut.

After setting the depth-of-cut, the position of the index mark (5), on the depth stop should not be changed anymore so that the currently adjusted setting can always be read off the scale

## **5. USAGE OF THE STEP BUFFER**

### **a) Dividing the cutting procedure in several steps**

For deep cuts, it is recommended to carry out several cuts, each with less material removal. By using the step buffer, the cutting process can be divided into several steps. Set the required depth-of-cut with the lowest step of the step buffer. Afterwards, the higher steps can be used for the last two cuts.

### **b) Pre-adjustment of varying depth-of-cuts**

If several different depth-of-cuts are required for the machining of a work-piece, these can also be preset by using the step buffer.

## **6. DIRECTION OF FEED (SEE FIG E, F)**

The feed motion of the router must always be carried out against the rotation direction of the router bit (up-grinding).

When milling in the direction with the rotation of the router bit (down cutting), the router can break loose, preventing control by the user.

## **7. ROUTING PROCESS**

Adjust the depth-of-cut as previously described.

Place the router on the work-piece.

Release the clamping lever by turning in clockwise direction and slowly lower the router until the depth stop runs against the step buffer. Lock the router in position by turning the clamping lever in anti-clockwise direction, then switch on. Carry out the cutting procedure with uniform feed. After finishing the cutting process, slide the router upwards again and switch off.

## 8. ROUTING WITH GUIDE BUSHING (SEE FIG G)



**WARNING:** Choose a router bit with a smaller diameter than the inner diameter of the guide bushing.

The guide bushing (24) enables template and pattern routing on work-pieces.

Place the guide bushing over the hole in the centre of the base plate, and align the two through holes in the bottom of the base plate with the countersunk holes in the guide bushing. Fasten the guide bushing with the nuts and screws provided.

Set the router with guide bushing against the template. Release the clamping lever by turning in clockwise direction and slowly lower the router toward the work-piece until the adjusted depth-of-cut is reached.

Guide router with projecting guide bushing along the template, applying light sideward pressure.

**NOTE:** The template must have a minimum thickness of 8mm, due to the projecting height of the guide bushing.

## 9. SHAPING OR MOULDING APPLICATIONS

For shaping or molding applications without the use of a parallel guide, the router must be equipped with a pilot or a ball bearing.

Lead the router sideward to the workpiece and allow router bit to engage until the pilot or the ball bearing of the router reach the corner of the workpiece being tool. Guide the router alongside the workpiece corner using both hands, ensuring proper seating of the base plate. Too much pressure can damage the edge of the workpiece.

## 10. ROUTING WITH PARALLEL GUIDE (SEE FIG H, I)

Slide the parallel guide (25) with the guide rods (26) into the base plate (9) and tighten at the required measure with the locking screw (11).

Guide the tool with uniform feed and sideward pressure on the parallel guide along the edge of the workpiece.

## 11. ROUTING CIRCULAR ARC PROFILES (SEE FIG J, K)

- Reverse the parallel guide (facing surfaces point upwards) and insert the guide rods into the base plate. Fasten center pin (27) to parallel guide (through hole) with wing bolt (28).
- Puncture center pin into marked centre of the circular arc and guide router with consistent feed across the workpiece surface.



## MAINTENANCE

Remove the plug from the socket before carrying out any adjustment, servicing or maintenance.

Your power tool requires no additional lubrication or maintenance.

There are no user serviceable parts in your power tool. Never use water or chemical cleaners to clean your power tool. Wipe clean with a dry cloth. Always store your power tool in a dry place. Keep the motor ventilation slots clean. Keep all working controls free of dust. Occasionally you may see sparks through the ventilation slots. This is normal and will not damage your power tool.

If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

## ENVIRONMENTAL PROTECTION



Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your Local Authority or retailer for recycling advice.

## GUARANTEE

This product is selected for DOMESTIC USE ONLY and not for business use.

This product is guaranteed against manufacturing defects for a period of 24 months. This does not cover the product where the fault is due to misuse, abuse, use in contravention of the instructions, or where the product has been the subject of unauthorised modifications or alterations, or has been the subject of commercial use. In the event of a problem with the product within the guarantee period please return it to your nearest store. If the item is shown to have an inherent defect present at the time of sale, the store will provide you with a replacement. Your statutory rights remain unaffected.

Issue1 08/2015

# PLUG REPLACEMENT (ONLY FOR REWIRABLE PLUG OF UK & IRELAND)

If you need to replace the fitted plug then follow the instructions below.

## IMPORTANT

The wires in the mains lead are colored in accordance with the following code:

**BLUE – NEUTRAL**

**BROWN – LIVE**

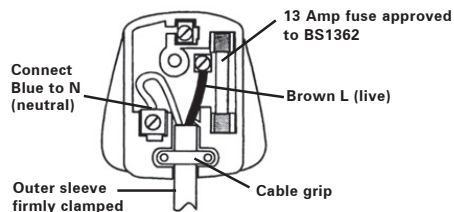
As the colors of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows. The wire which is coloured blue must be connected to the terminal which is marked with N. The wire which is coloured brown must be connected to the terminal which is marked with L.



## WARNING:

Never connect live or neutral wires to the earth terminal of the plug. Only fit an approved BS1363/A plug and the correct rated fuse.

**NOTE:** If a moulded plug is fitted and has to be removed take great care in disposing of the plug and severed cable, it must be destroyed to prevent engaging into a socket.



# DECLARATION OF CONFORMITY

We,  
Positec Power Tools (Europe) Ltd, PO Box 6242, Newbury, RG14 9LT, UK

Declare that the product

Description **Electric Router**

Type **PRT210GH (PRT-designation of machinery, representative of Router)**

Function **Cutting slots into or shaping the edge of various materials**

Complies the following directive:

**2006/42/EC, 2011/65/EU, 2014/30/EU**

Standards conform to:

**EN 60745-1, EN 60745-2-17, EN 55014-1, EN 55014-2, EN 61000-3-2, EN 61000-3-3**

The person authorized to compile the technical file:

Name **Jim Kirkwood**

Address **Positec Power Tools (Europe) Ltd, PO Box 6242, Newbury, RG14 9LT, UK**



2017/11/24

Allen Ding

Deputy Chief Engineer, Testing & Certification

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