



**MODEL RT6033**

# **VARIABLE SPEED ELECTRIC ROUTER**

**Instruction Manual**



## ***NEED HELP? CONTACT US!***

Have product questions? Need technical support? Please feel free to contact us:



**1-800-232-1195 (M-F 8AM-5PM CST)**



**TECHSUPPORT@WENPRODUCTS.COM**

**IMPORTANT:** Your new tool has been engineered and manufactured to WEN's highest standards for dependability, ease of operation, and operator safety. When properly cared for, this product will supply you years of rugged, trouble-free performance. Pay close attention to the rules for safe operation, warnings, and cautions. If you use your tool properly and for its intended purpose, you will enjoy years of safe, reliable service.

For replacement parts and the most up-to-date instruction manuals, visit ***WENPRODUCTS.COM***

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
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To purchase accessories for your tool, visit ***WENPRODUCTS.COM***

**Template Guide Adapters** (Part Number 6033TGA)  
See page 22 for a list of our premium-quality router bits

## INTRODUCTION

Thanks for purchasing the WEN Electric Router. We know you are excited to put your tool to work, but first, please take a moment to read through the manual. Safe operation of this tool requires that you read and understand this operator's manual and all the labels affixed to the tool. This manual provides information regarding potential safety concerns, as well as helpful assembly and operating instructions for your tool.

 Indicates danger, warning, or caution. The safety symbols and the explanations with them deserve your careful attention and understanding. Always follow the safety precautions to reduce the risk of fire, electric shock or personal injury. However, please note that these instructions and warnings are not substitutes for proper accident prevention measures.

**NOTE:** The following safety information is not meant to cover all possible conditions and situations that may occur. WEN reserves the right to change this product and specifications at any time without prior notice.

At WEN, we are continuously improving our products. If you find that your tool does not exactly match this manual, please visit [wenproducts.com](http://wenproducts.com) for the most up-to-date manual or contact our customer service at **1-800-232-1195**.

**Keep this manual available to all users during the entire life of the tool and review it frequently to maximize safety for both yourself and others.**

## SPECIFICATIONS

Model Number	RT6033
Motor	120V, 60Hz, 15A
Variable Speed	8,000 - 23,000 RPM
Collet Size	0.5 Inches
Adapter Size	0.25 Inches
Net Weight	18 lbs
Product Dimensions	12.5" x 6.2" x 12.7"

### INCLUDED ACCESSORIES

Carrying Case.....	1	Profile Guide.....	1
Straight Guide Fence.....	1	Dust Extraction Duct (1.5").....	1
Fence Pole.....	2	0.5" Collet & Nut Assembly.....	1
Fence Pole Scale.....	1	0.25" Router Bit Shank Adapter.....	1
Centring Pin.....	1	Wrench.....	1
Template Guide.....	1		

# GENERAL SAFETY RULES

 **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.

Safety is a combination of common sense, staying alert and knowing how your item works. The term “power tool” in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

## SAVE THESE SAFETY INSTRUCTIONS.

### WORK AREA SAFETY

- 1. Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
- 2. 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.
- 3. Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

### ELECTRICAL SAFETY

- 1. 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.
- 2. 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.
- 3. Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- 4. 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.
- 5. 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.

**6. If operating a power tool in a damp location is unavoidable, use a ground fault circuit interrupter (GFCI) protected supply.** Use of a GFCI reduces the risk of electric shock.

### PERSONAL SAFETY

- 1. 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.
- 2. Use personal protective equipment. Always wear eye protection.** Protective equipment such as a respiratory mask, non-skid safety shoes and hearing protection used for appropriate conditions will reduce the risk of personal injury.
- 3. 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 energizing power tools that have the switch on invites accidents.
- 4. 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.
- 5. Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- 6. Dress properly. Do not wear loose clothing or jewelry. Keep your hair and clothing away from moving parts.** Loose clothes, jewelry or long hair can be caught in moving parts.

# GENERAL SAFETY RULES

**⚠ 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.

Safety is a combination of common sense, staying alert and knowing how your item works. The term “power tool” in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

## SAVE THESE SAFETY INSTRUCTIONS.

**7. 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.

### POWER TOOL USE AND CARE

**1. 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.

**2. 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.

**3. 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.

**4. 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.

**5. 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.

**6. Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.

**7. 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.

**8. Use clamps to secure your workpiece to a stable surface.** Holding a workpiece by hand or using your body to support it may lead to loss of control.

**9. KEEP GUARDS IN PLACE** and in working order.

### SERVICE

**1. 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.

### CALIFORNIA PROPOSITION 65 WARNING

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities may contain chemicals, including lead, known to the State of California to cause cancer, birth defects, or other reproductive harm. Wash hands after handling. Some examples of these chemicals are:

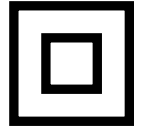
- Lead from lead-based paints.
- Crystalline silica from bricks, cement, and other masonry products.
- Arsenic and chromium from chemically treated lumber.

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 with approved safety equipment such as dust masks specially designed to filter out microscopic particles.

## ELECTRICAL INFORMATION

### DOUBLE-INSULATED TOOLS

The tool's electrical system is double-insulated where two systems of insulation are provided. This eliminates the need for the usual three-wire grounded power cord. Double-insulated tools do not need to be grounded, nor should a means for grounding be added to the product. All exposed metal parts are isolated from the internal metal motor components with protecting insulation.



**IMPORTANT:** Servicing a double-insulated product requires extreme care and knowledge of the system, and should be done only by qualified service personnel using identical replacement parts. Always use original factory replacement parts when servicing.

**1. Polarized Plugs.** To reduce the risk of electric shock, this equipment has a polarized plug (one blade is wider than the other). This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install a proper outlet. Do not modify the machine plug or the extension cord in any way.

**2. Ground fault circuit interrupter protection (GFCI)** should be provided on the circuit or outlet used for this power tool to reduce the risk of electric shock.

**3. Service and repair.** To avoid danger, electrical appliances must only be repaired by a qualified service technician using original replacement parts.

### GUIDELINES AND RECOMMENDATIONS FOR EXTENSION CORDS

When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage, resulting in loss of power and overheating. The table below shows the correct size to be used according to cord length and ampere rating. When in doubt, use a heavier cord. The smaller the gauge number, the heavier the cord.


AMPERAGE	REQUIRED GAUGE FOR EXTENSION CORDS			
	25 ft.	50 ft.	100 ft.	150 ft.
15A	14 gauge	12 gauge	Not Recommended by UL	

**1. Examine extension cord before use.** Make sure your extension cord is properly wired and in good condition. Always replace a damaged extension cord or have it repaired by a qualified person before using it.

**2. Do not abuse extension cord.** Do not pull on cord to disconnect from receptacle; always disconnect by pulling on plug. Disconnect the extension cord from the receptacle before disconnecting the product from the extension cord. Protect your extension cords from sharp objects, excessive heat and damp/wet areas.

**3. Use a separate electrical circuit for your tool.** This circuit must not be less than a 12-gauge wire and should be protected with a 15A time-delayed fuse. Before connecting the motor to the power line, make sure the switch is in the OFF position and the electric current is rated the same as the current stamped on the motor nameplate. Running at a lower voltage will damage the motor.

# ***ELECTRIC ROUTER SAFETY WARNINGS***

 **WARNING!** Do not operate the power tool until you have read and understood the following instructions and the warning labels.

## **ELECTRIC ROUTER SAFETY**

1. The speed range of the router is 8,000 - 23,000 RPM. Make sure that the router bit you wish to use is suitable for your router. Check the router bit's maximum speed rating specified by the manufacturer. It must be capable of operating at the maximum rotation speed of 23,000 RPM.
2. Never use dull or damaged router bits. Damaged bits may break during use, and dull bits require additional force to operate, which may cause you to lose control. Any cracked or broken bit must be replaced before operation.
3. Before installing a router bit, make sure the power cord plug is removed from the electrical outlet and the router is switched to off.
4. The router bit shank must fit the size of the collet. If the router bit cannot be firmly gripped by the collet, it will become loose during operation, resulting in serious personal injury.
5. Never start the tool when the router bit is touching the workpiece.
6. Make sure the collet nut and all adjustment knobs are securely tightened before operating the router. Loose adjustment knobs and collet nuts can cause unexpected shifts in momentum, increasing the chances of personal injury.
7. Always wear ANSI-approved safety goggles and hearing protection when operating the router.
8. Before operating the router, be sure to run the machine without load for some time to check for runnout due to improper installation of the router bit.
9. Avoid cutting nails and staples with the router. Before operation, inspect the workpiece to make sure the work surface is free from nails and other foreign objects. Cutting into foreign objects can cause unexpected injury.
10. Always properly attach the workpiece to a stable platform using clamps or other securing devices. Never hold the workpiece in your hands or across your leg during operation.
11. Hold the router handles firmly with both hands during operation.
12. Keep in mind the rotational direction of the router bit before attempting to operate. Always cut with the correct direction of the feed in mind (see page 14, "Direction of Feed").
13. Do not set the router down until the motor has come to a complete stop. The exposed spinning bit can cause serious injury or cause the router to move unexpectedly.
14. Before removing the router bit from the workpiece, make sure that the power switch is turned off and the router bit has come to a complete stop.
15. To reduce the risk of getting burned, do not touch the router bit immediately after use as it may get hot during operation.
16. Always unplug the tool before changing bits or making adjustments. Failure to do so can result in the tool starting unexpectedly.

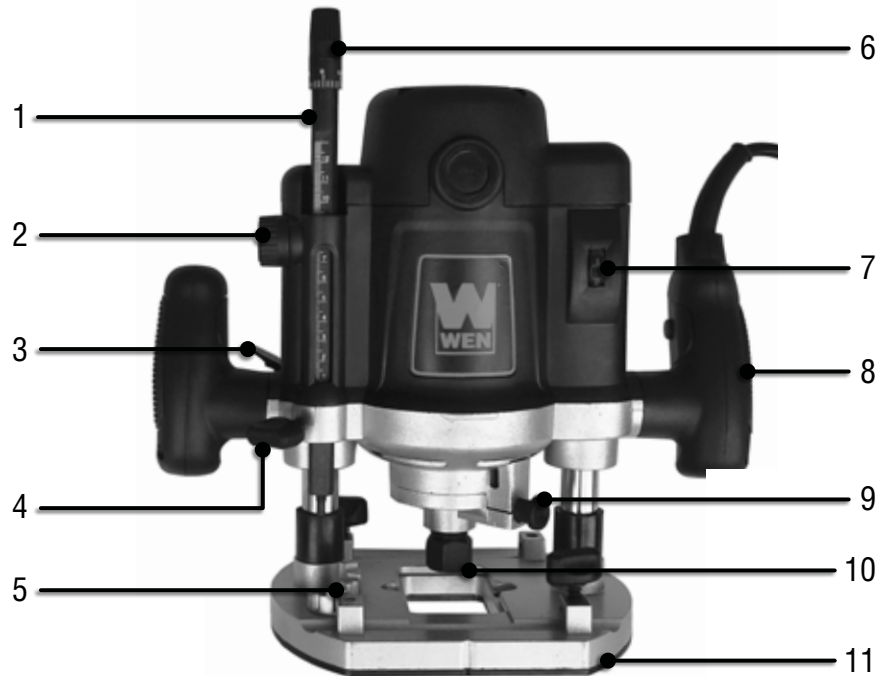
# KNOW YOUR ELECTRIC ROUTER

## TOOL PURPOSE

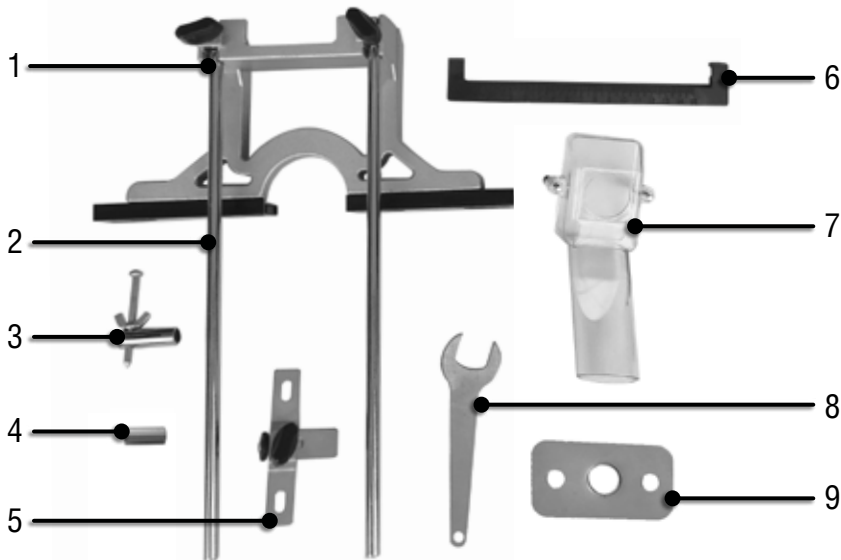
Make intricate patterns in both the exterior and interior of your workpieces using your electric router. Refer to the following diagrams to become familiarized with all the parts and controls of your Electric Router. The components will be referred to later in the manual for assembly and operation instructions.

## ROUTER

NO.	DESCRIPTION
1	Depth Stop Pole
2	Depth Adjustment Dial
3	Height Lock Lever
4	Depth Lock Knob
5	Depth Stop Turret
6	Fine-Tune Adjustment Dial
7	Variable Speed Dial
8	Handle & Power Switch
9	Spindle Lock Button
10	0.5" Collet & Nut Assembly
11	Router Base



## ACCESSORIES



NO.	DESCRIPTION
1	Straight Guide Fence
2	Fence Pole
3	Centering Pin
4	0.25" Bit Shank Adapter
5	Profile Guide
6	Fence Pole Scale
7	Dust Collection Duct
8	Wrench
9	Template Guide



# KNOW YOUR ELECTRIC ROUTER

**⚠ WARNING!** Do not attempt to plug in or operate your router until the entire operator's manual has been read and understood. Failure to do so could result in personal injury and damage to the tool.

## 1. FINE-TUNE ADJUSTMENT DIAL

The fine-tune adjustment dial (Fig. 1 - 1) is able to make minor adjustments to the cutting depth. Rotating it one full turn adjusts the depth pole by 1/32 inch. This feature can be used to assist in initial depth setup or to fine-tune the cutting depth between cutting operations.

## 2. DEPTH STOP POLE

The depth stop pole (Fig. 1 - 2) acts as a stop for your cut. Raise the depth stop pole to increase the cutting depth and lower the pole to decrease the cutting depth. The scale on the pole helps to accurately determine the cutting depth (see page 11 "Setting the Cutting Depth").

## 3. DEPTH ADJUSTMENT DIAL

Turn the depth adjustment dial (Fig. 1 - 3) to raise or lower the depth set pole (Fig. 1 - 2).

## 4. PLUNGE LOCK LEVER

The plunge lock lever (Fig. 2) on the back of the router is used to lock the router at a specific height. Push in the lever to engage the lock and push out the lever to unlock.

## 5. DEPTH LOCK KNOB

The depth lock knob (Fig. 1 - 4) is used to lock or unlock the depth stop pole. Loosen it before adjusting the depth stop pole and tighten it to lock the pole at your desired position.

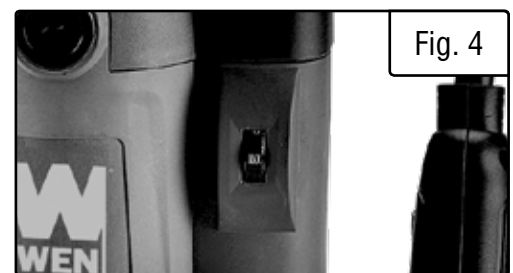
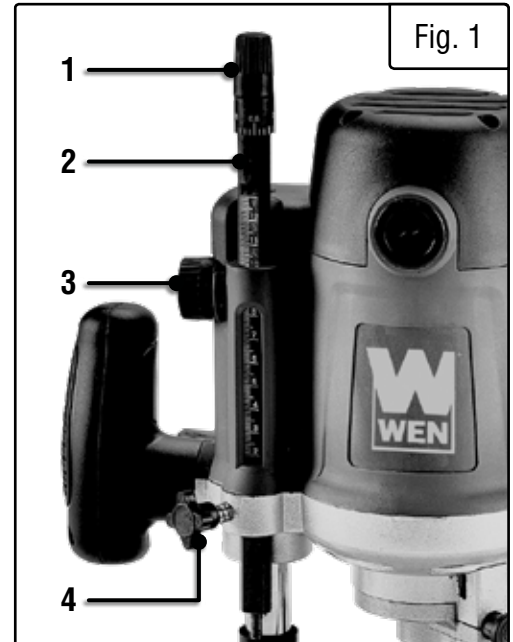
## 6. DEPTH STOP TURRET

The depth stop turret (Fig. 3) has 7 positions, each at an increment of 1/8 of an inch (3.175 mm). The router cutting depth is determined by the distance between the depth stop turret and the bottom of the depth stop pole. Rotate the depth stop turret to adjust the height of the stop face.

The depth stop turret allows you to easily increase or decrease your cutting depth by 1/8 inch increments without having to reset the cutting depth. It can be used to assist in creating deep cuts with multiple passes.

## 7. VARIABLE SPEED DIAL

The variable speed dial on the body of the router (Fig. 4) is used to adjust the rotation speed of the bit from 8,000 to 23,000 RPM. The appropriate speed will depend on the material being worked on, the bit size and other conditions. Refer to page 12 "Setting the Router Speed" and Fig. 14 to set the appropriate speed for your project.



## KNOW YOUR ELECTRIC ROUTER

### 8. POWER CONTROL

Press down trigger to start the router. Always ensure you are holding the router safely and securely before starting the tool. Your router is built with a lock-off switch for your safety (Fig. 5). To turn the unit on, press the safety button and then press the trigger all the way down. Once the trigger is pressed, the safety button can be released. To stop the router, simply release the trigger.

This router is equipped with a soft start function for safety operation. When the router is switched on, the motor will slowly speed up until it reaches the set speed. This gives you time to adjust your grasp on the handles and gain control of the router.

### 9. SPINDLE LOCK BUTTON

Press down the spindle lock button (Fig. 6) to lock the spindle when tightening the collet nut. Make sure to release the spindle lock button before operation.

### 10. 1/2" COLLET & NUT ASSEMBLY

The 1/2" collet & nut assembly allows you to easily install router bits with 1/2 inch shank. Insert the bit and tighten the nut with the included wrench. Loosen the collet nut to uninstall the bit. To install a 1/4" bit, first insert the bit into the 1/4" shank adapter and then insert the shank adapter into the collet & nut assembly. Fully tighten the nut and check that the router bit is secure before turning on the router.

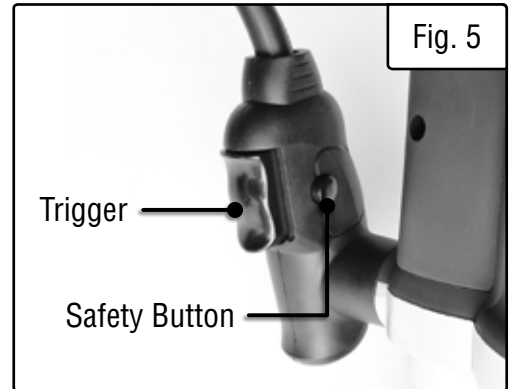


Fig. 5



Fig. 6

**TIP:** WEN offers a full lineup of premium-quality router bits for all your needs. See page 22 for router bit options.

## ASSEMBLY & ADJUSTMENTS

### DUST EXTRACTION

#### WHAT YOU NEED:

Dust Extraction Duct (with two screws)



1. Ensure that the router is locked in its maximum height position (Fig. 2).
2. Place the dust extraction duct over the base and align the holes (Fig. 7).

**NOTE:** The dust extraction duct can be installed in either direction but it is recommended to install with the outlet facing the back side of the router for easier operation.

3. Fasten the dust extraction duct with the two screws that are found stored underneath the base (Fig. 8).
4. Connect the dust extraction duct to the dust hose.



Fig. 7

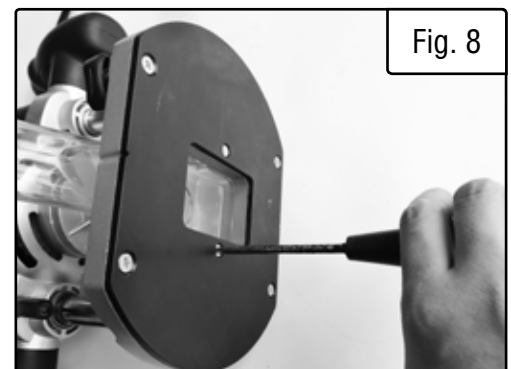


Fig. 8

# ASSEMBLY & ADJUSTMENTS

## INSTALLING & REMOVING ROUTER BITS

**⚠ WARNING!** Router bits are extremely sharp. Take care when handling bits as they can cause serious injury.

### WHAT YOU NEED:

- Wrench
- Router Bit (Not Included)
- 0.25" Shank Adaptor (Optional)

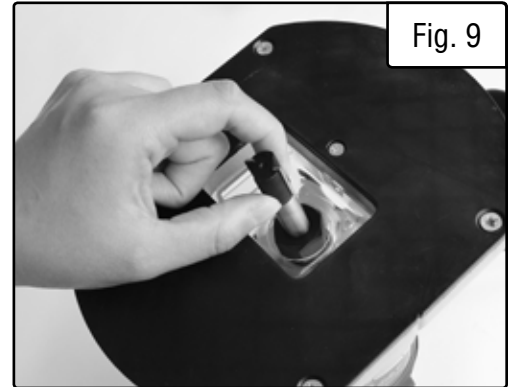


Fig. 9

Make sure that the router bit you wish to use is suitable for your router. The bit must be capable of operating at the rotation speed of 23,000 RPM. Before use, check the bit carefully for any cracks or chips. Do not use a bit that shows signs of damage. Carefully read and follow all instructions.

1. Switch off the router and unplug the cord.
2. Adjust the depth stop pole to be completely in the down position so that the fine tuning knob does not extend past the top of the router housing. Place the router upside down on a flat surface. (Fig. 9).

3. To insert a bit with 1/2" shank:

Loosen the collet nut while holding the spindle lock. Insert the router bit all the way into the collet as far as it will go and retract the bit by 1/16" to 1/8". Finger tighten the collet nut until the bit is held in place.

- To insert a bit with 1/4" shank:

First insert the router bit into the 1/4" shank adaptor. Loosen the collet nut while holding the spindle lock and insert the router bit / shank adapter assembly into the collet as far as it will go and retract the bit by 1/16" to 1/8". Finger tighten the collet nut until the bit is held in place.

4. Press in the spindle lock button and fully tighten the collet nut with the included wrench. Remember to remove the wrench from the collet nut. Check that the bit is securely installed.

**⚠ CAUTION!** The router bit shank must fit the size of the collet. If the router bit cannot be firmly gripped by the collet, it will become loose during operation and may result in serious personal injury.

5. Release the spindle lock and make sure the bit can spin freely.
6. Plug in and turn on the router to check for any abnormal vibration or wobbling. This may indicate that the bit is damaged or improperly installed.
7. To remove the router bit, make sure the router is switched off and the cord is unplugged. Press down the spindle lock and loosen the collet nut with the wrench. Remove the bit from the collet.

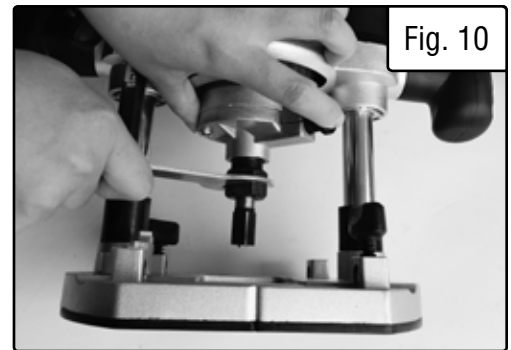


Fig. 10

# ASSEMBLY & ADJUSTMENTS

## SETTING THE CUTTING DEPTH

The cutting depth of the router is indicated by the distance between the bottom of the depth stop pole and the depth set turret.

1. Install the desired router bit as described in section “Installing & Removing Router Bits“ on page 10.

2. Place the router on a flat surface. Loosen the depth lock knob (Fig. 11 - 5) and raise the depth stop pole (Fig. 11 - 2) by turning the depth adjustment dial (Fig. 11 - 3).

3. Loosen the plunge lock lever (Fig. 12) and lower the router’s body until the bit is barely touching the workpiece surface. Tighten the plunge lock lever.

4. Bring down the depth stop pole until the bottom of the pole touches the depth stop turret.

5. Make note of this initial scale reading on the depth stop pole indicated by the arrow.

6. Unlock the plunge lock lever and bring up the router body.

7. For example, if your desired depth of cut is 1 inch and the initial scale reading is 2 inches, set the depth set pole to be 3 inches at the arrow ( $1 + 2 = 3$ ). Tighten the depth lock knob to lock the pole in place.

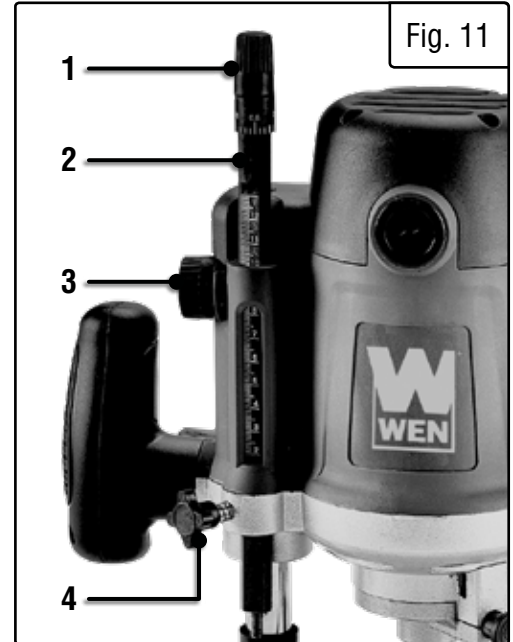
8. Alternatively, the cutting depth can be set visually by placing the router at the edge of the workpiece and plunging the bottom of the bit to the desired depth. Tighten the plunge lock lever at this desired depth. Bring down the depth stop pole until it touches the stop turret and lock it in place with the depth lock knob. Finally, unlock the plunge lock lever.

9. Use the fine-tune adjustment dial (Fig. 11 - 1) to make minor adjustments if needed.

## DEPTH OF CUT

The depth of cut that the router is able to make with each pass depends on the size of the bit and the material being worked on. Making a deep cut in a single pass could overload the motor and reduce the quality of the cut. Always test your cuts on a scrap piece of material similar to your workpiece to confirm the cutting depth.

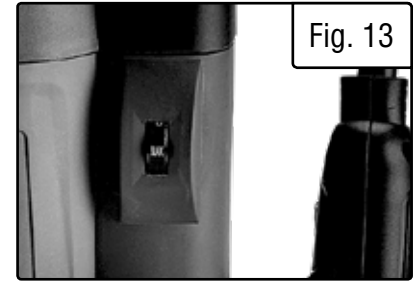
When making a deep cut, progress to the desired depth by making several consecutively deeper cuts. This will help achieve clean cuts and reduce damage to the router bit and workpiece. Use the depth set turret to adjust each cutting depth by 1/8 inch (3 mm) increments. For example, if the desired depth is set using the shortest step, start the initial cut using a taller step and progress to consecutively shorter steps on the depth set turret until the desired depth is achieved.



# ASSEMBLY & ADJUSTMENTS

## SETTING THE ROUTER SPEED

The router is equipped with a variable speed dial (Fig. 13) that can control the bit rotation speed from 8,000 - 23,000 RPM. If the router speed is too high, friction will generate excessive heat and burn the workpiece. If the router speed is too low, the bit will tear the material and result in rough or uneven cuts. The optimal rotation speed of a particular router bit varies, depending on bit's diameter, the material being cut, the cutting depth, and the cut's style.



In general, the larger the bit's diameter, the slower you should set the router speed. This is because larger bits have a greater tendency to generate vibration at high speeds. Refer to the instructions and maximum speed specified by the manufacturer of your router bit. You can also use the chart below (Fig. 15 - Router Speed and Feed Rate Settings Chart) as a rough reference for setting the router speed. To best determine the router speed, test the speed on a scrap piece of the same material. This will allow you to see the cut result and make adjustments before working on the actual workpiece.

**⚠ CAUTION!** The fan does not cool the motor effectively at lower speeds and may cause the motor to overheat. Do not run the tool at low speeds for extended periods. Occasionally run the router at high speed with no load to allow the motor to cool down.

## FEED RATE

The rate at which the router is moved through the material also has a significant effect on the quality of the cut and the lifetime of your router and bits. Moving the router through the cut too fast or overloading the tool will cause the bit to take larger pieces of material with each rotation, resulting in a rough, uneven cut. Moving the router through the workpiece too slowly tends to burn the workpiece and possibly overheat the bit.

The proper feed rate to use depends on the bit size, the material being cut, the depth of cut and the speed selected. Use the chart below (Fig. 15 - Router Speed and Feed Rate Settings Chart) as a reference for how fast your router should be moved along the workpiece. The best way to ensure that you get a quality cut is to practice on a scrap piece of the same material to get a feel for what feed rate to use. This will also show you exactly how the cut will look and allow you to check your cutting depth.

Material	Bit Diameter (inches)					Feed Rate
	≤1/2	3/4	1	1-1/4	≥1-1/2	
	Router Speed Setting					
Pine	5-max	5-6	4-6	3-5	3-5	Fast
Oak	5-max	4-6	4-5	3-5	2-4	Moderate
Cherry	3-5	3-5	3-4	2-4	2-3	Moderate
Maple	3-5	3-5	3-4	2-4	2-3	Slow
Particleboard and MDF	5-max	5-max	4-max	3-5	3-5	Fast
Soft Plastics	3-5	3-5	3-4	2-4	1-3	Slow
Hard Plastics	2-4	1-4	1-3	1-2	1-2	Slow
Aluminum	3-4	3-4	2-3	2-3	1-3	Slow

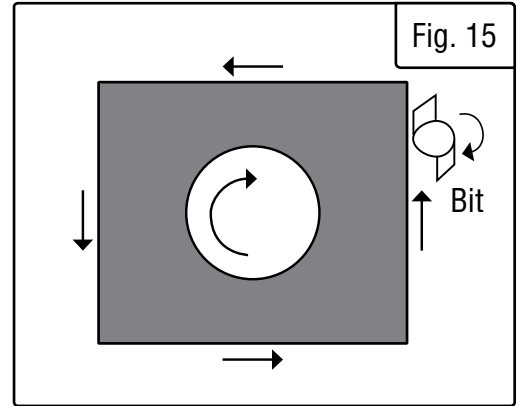
**Fig. 14 - Router Speed and Feed Rate Settings Chart**

## ASSEMBLY & ADJUSTMENTS

### DIRECTION OF FEED

If you are looking down from the top of the router, the bit will revolve in a clockwise direction. This gives the router a tendency to twist counterclockwise in your hands, particularly when starting the tool.

For maximum safety and control, feed the router in a counterclockwise direction when routing the exterior edges of your workpiece. Feed the router in a clockwise direction when routing the interior of your workpiece (Fig. 15). The edge of the workpiece should always be on the lefthand side of your router. If the router is operated in the reverse direction from what is shown in Fig. 15, the router bit will propel the router along the workpiece at a high speed rate that could cause lose of control and personal injury.



## OPERATION

**⚠ WARNING!** Make sure all the assembly and adjustment instructions have been read and understood before plugging in your router.

**⚠ WARNING!** Wear safety glasses to protect your eyes from flying wood chips and dust. Wear hearing protection as the router can be very loud and damage your ears.

### ROUTING

1. Clamp down and firmly secure the workpiece.
2. Check that the router is set to a suitable speed and cutting depth.
3. Hold the router handles firmly with both hands. Switch on the router and allow the motor to reach full speed.
4. Slowly feed the router bit into the workpiece and progress smoothly through the cut until the cut is complete.
5. Turn the router off and let the bit come to a complete stop before removing the router from the workpiece.

### TRIMMING

Trimming is creating a cut by moving the router bit alongside the edge of a workpiece. For trimming, you must select a router bit with a bearing attached to properly guide the bit along the workpiece. Follow the instructions for routing.

**NOTE:** If the edge where the bearing is running along is laminated or veneered, run some masking tape along it to protect the surface.

When making deep cuts, multiple passes may be needed to create the desired cut. See page 11 “Depth of Cut” on using the depth stop turret to adjust the cutting depth and making consecutive passes.

# OPERATION

## CUTTING ALONG A STRAIGHT EDGE

### WHAT YOU NEED:

- Straight Guide Fence
- Two Fence Poles
- Fence Pole Scale (Optional)
- Workpiece with a straight edge



The straight guide fence is used to create straight cuts along a workpiece with a straight edge that can be followed. To attach the straight cut fence:

1. Attach the two fence poles to the fence bracket and tighten the two knobs.
2. Attach the straight guide fence to the router base by passing the poles through the holes in the base (Fig. 16). Make sure that each pole passes through both holes on the router base.
3. Adjust the position of the poles to the suitable distance and tighten the poles with two knobs on the router base. **CAUTION:** Make sure that the lock knobs are securely tightened.
4. Slide the fence along the straight reference edge of your workpiece, moving the router along the edge in a straight line (Fig. 17).
5. The fence pole scale can be clamped onto one of the fence poles to measure the distance between the bit and the edge of travel (Fig. 18).

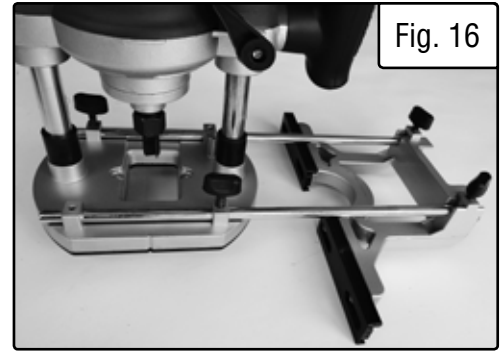


Fig. 16

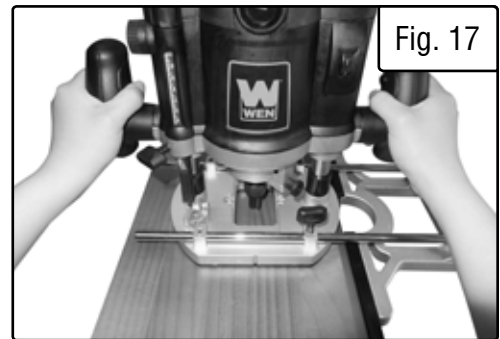


Fig. 17

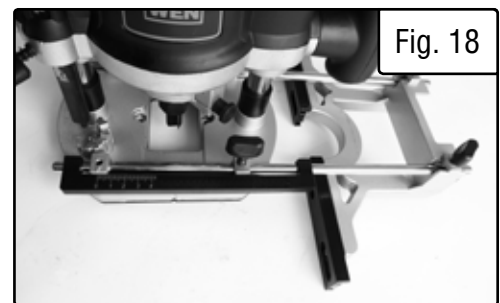


Fig. 18

## CUTTING A CIRCULAR ARC

### WHAT YOU NEED:

- One Fence Pole
- Centering Pin
- Fence Pole Scale (Optional)



The centering pin can be used to cut out circular patterns when combined with the fence pole. To attach the centering pin:

1. Fit the centering pin onto the fence pole. Loosen the butterfly nut to adjust the height of the pin. Tighten the butterfly nut to secure the pin at the desired height.
2. Insert the pole through the two holes on the router base and tighten the lock knob. If needed, attach the fence pole scale onto the pole to assist in measuring the distance.
3. Determine the center of the circular arc, and drill a hole for the tip of the centering pin.
4. Place the router on the workpiece with the centering pin placed in the hole. Determine the radius of the circular arc by adjusting the position of the router on the fence pole and tighten the lock knobs. Make sure the centering pin is stable and all adjustment knobs are tightened before operating the router.

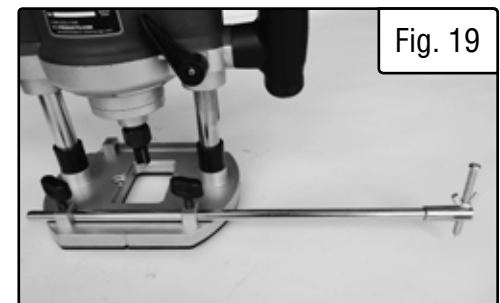


Fig. 19

# OPERATION

## CUTTING ALONG A PROFILE

### WHAT YOU NEED:

- Straight Guide Fence
- Profile Guide



The profile guide helps to maintain an equal cutting distance along the edge of an irregularly shaped workpiece.

1. Unscrew the four screws and remove the two sliding pads on the straight guide fence bracket (Fig. 20).
2. Mount the profile guide in the center of the fence as shown (Fig. 21) with the sliding wheel protruding outside and downwards. Tighten down with the profile guide with screws.
3. Place router on workpiece at desired distance from edge to be copied.
4. Insert the fence poles into the holes on the router base and adjust until the wheel is in contact with the workpiece. Tighten all the locking knobs.

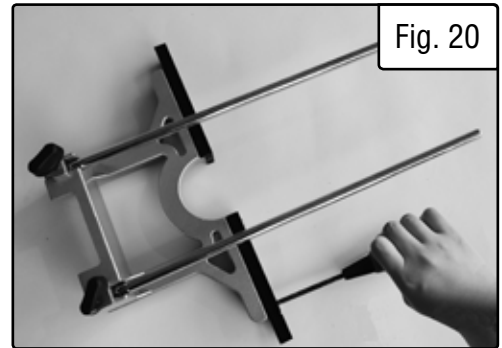


Fig. 20

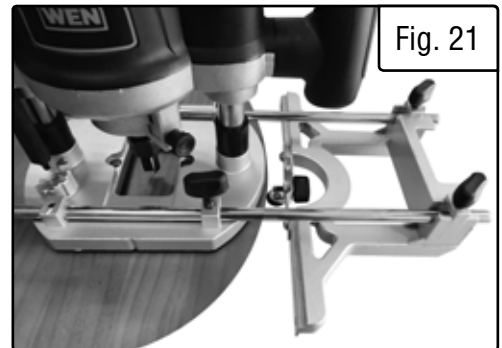


Fig. 21

## CUTTING WITH A TEMPLATE

### WHAT YOU NEED:

- Template Guide



### OR (SOLD SEPARATELY):

- Template Guide Adapter
- Generic Template Guide / Guide Bushing

The included template guide is designed to fit the base of the router to accurately duplicate curves and other shapes. You can also purchase the template guide adapter (6033TGA) with a center hole diameter of 1-3/16" from wenproducts.com, to fit other template guides and bushings.

1. Remove the four M5 X 10 screws holding the plastic base plate. Remove the base plate.
2. Place the template guide or template guide adapter in the recess on the opposite side of the base plate and tighten with the M4 X 25 screws. Ensure the template guide protrudes below the bottom of the base, allowing the router to follow the template (Fig. 23).
3. Place the plastic base plate back onto the base of the router and tighten all four screws (Fig. 23).

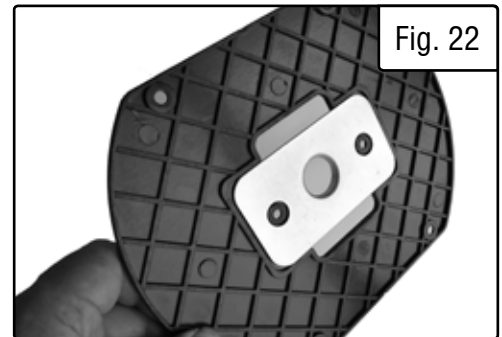


Fig. 22

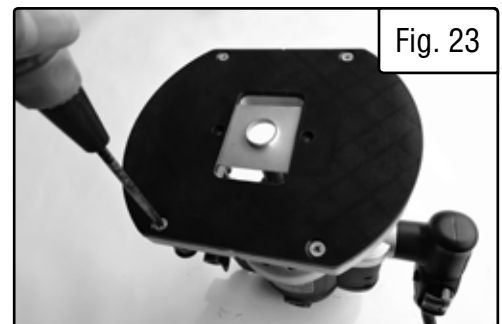


Fig. 23

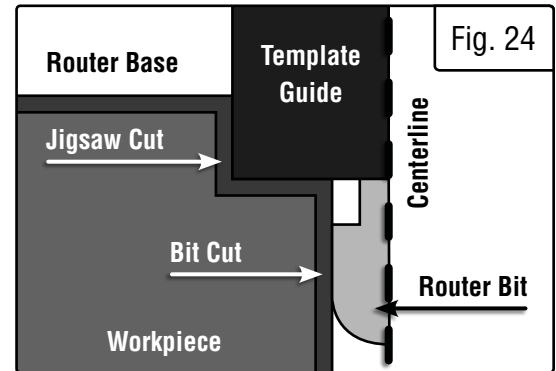


## OPERATION

### CUTTING ALONG A STRAIGHT EDGE

The template can be created with a jigsaw to guide your desired cut. Template should be thick enough to allow for the protrusion of the guide. When creating the template, account for the distance between the cutting edge of the bit and the outer edge of the protruding circle.

**NOTE:** The template must be securely fixed to the workpiece and firm pressure should be applied to the router throughout the cut to ensure that the edge of the guide accurately follows the template (Fig. 24).



## MAINTENANCE

**⚠ WARNING!** To avoid accidents, always disconnect the tool from the power supply before cleaning or performing any maintenance.

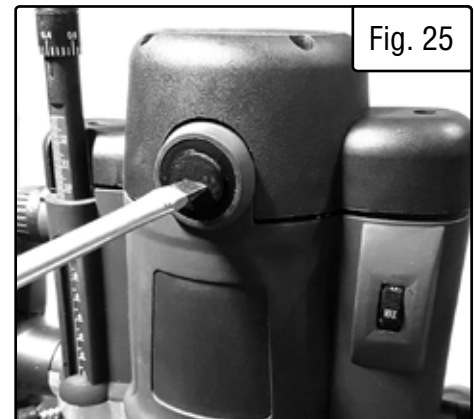
### CLEANING

1. Regularly clean the router with a soft cloth or compressed air. Remember to wear safety goggles when cleaning tools with compressed air.
2. Regularly clean the router bits and collet carefully to remove dust and chips that have accumulated.

**⚠ WARNING!** Do not at any time let brake fluids, gasoline, petroleum based products, penetrating oils, etc., come in contact with plastic parts. Chemicals can damage, weaken or destroy plastic which may result in serious personal injury.

### CARBON BRUSHES INSPECTION AND REPLACEMENT

1. Wear on the carbon brushes depends on how frequently and how heavily the router is used. For general use, it is recommended to check the brushes every 6 months.
2. The carbon brush caps are located on the front and back of the router. To access the brushes, unscrew and remove the two brush caps with a flat head screwdriver (Fig. 25).

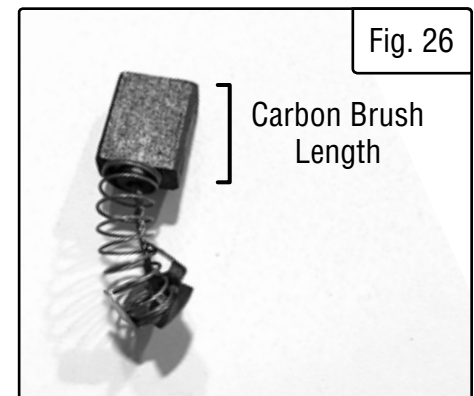


3. Take out and inspect the carbon brushes (Fig. 26). If the brushes are worn to under 1/4" in length, replace them with new carbon brushes and then reinstall the brush caps.

**NOTE:** Always keep carbon brushes clean and ensure that they slide freely in the brush holders. Double carbon brushes should be replaced at the same time.

### PRODUCT DISPOSAL

When product reaches the end of its lifetime, do not dispose of it with household waste. Electrical and electronic products are hazardous to the environment and human health due to the presence of hazardous substances. Please take product to your local recycling facility for it to be responsibly recycled to minimize impacts on the environment.



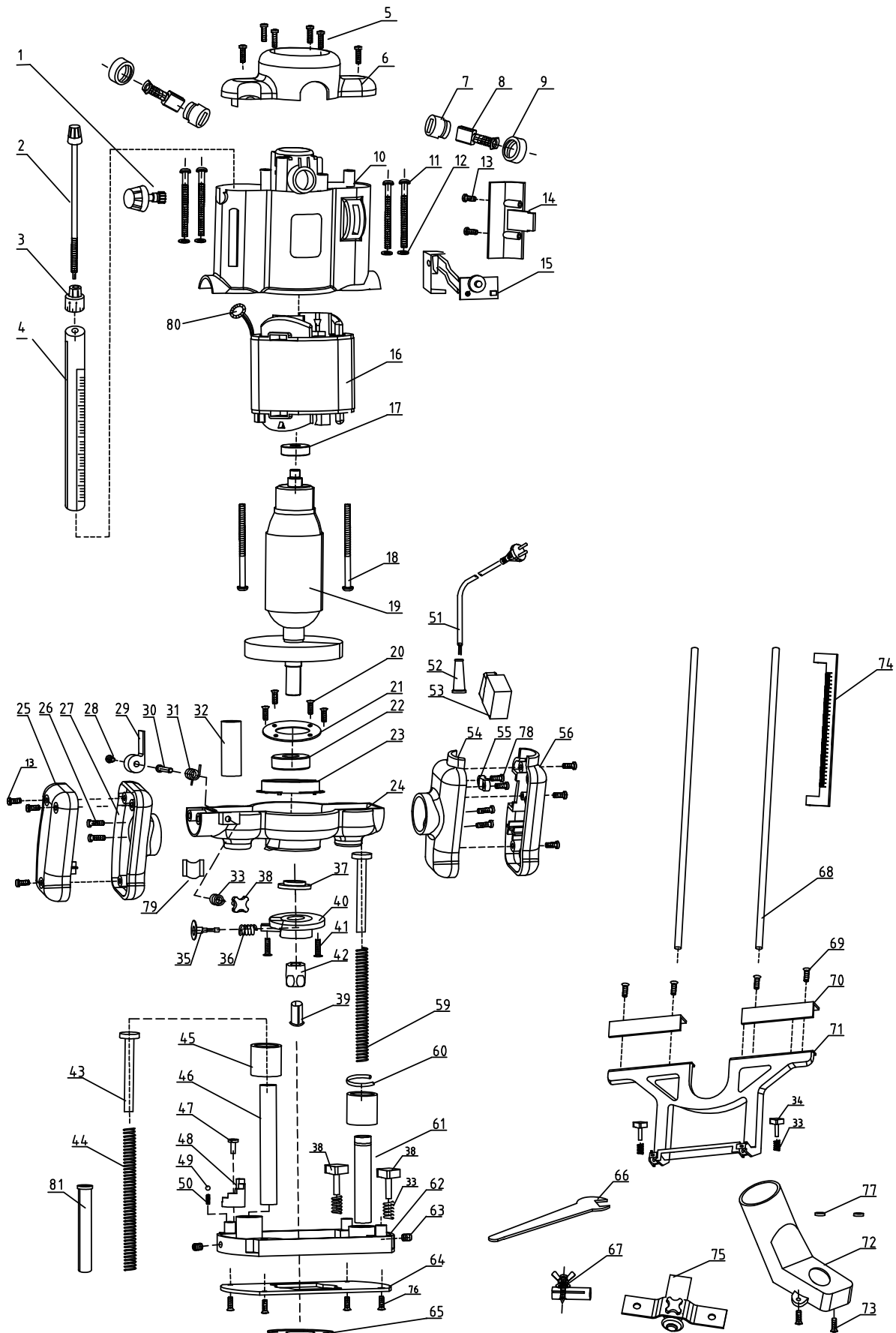
## TROUBLESHOOTING GUIDE



Stop using the generator immediately if any of the following problems occur or risk serious personal injury. If you have any questions, please contact customer service at (M-F 8-5 CST), or email .

Problem	Possible Cause	Solution
<b>Motor does not start</b>	1. The power cord is damaged or not properly plugged in.	1. Check the power cord, power plug and the power outlet. Do not use the machine if the power cord is damaged.
	2. The motor carbon brushes are worn.	2. Inspect the carbon brushes and replace as needed (see page 17, “Carbon Brush Inspection and Replacement”).
<b>Carbon brush cap (6033-007) falls out</b>	Temperature and vibration from operation affected the thread tolerance.	Contact customer service at (800) 232-1195, M-F 8-5 CST for a replacement carbon brush cap (6033-007) that will resolve this issue.
<b>Router does not plunge smoothly</b>	1. The plunge lock lever is locked.	1. Unlock plunge lock lever by pushing it out.
	2. The plunge posts may be scratched or damaged.	2. Inspect plunge posts for damage. If damage is found, contact customer service for assistance.
<b>Router bit slips in the collet.</b>	1. The collet and mating arbor taper are pitted from acids and oil in the wood and needs cleaning.	1. Remove the collet from the router. Using a plastic scrubbing pad, clean the outer taper of the collet and the interior taper of the arbor. Make sure there is no plastic or metal debris left over from the cleaning and reinsert collet.
	2. The router bit is damaged.	2. Stop using the damaged router bit and replace with a new one.
<b>Routed profile burns</b>	1. The router bit is dull.	1. Replace the router bit.
	2. The router speed is too fast.	2. Reduce the router speed.
	3. The feed speed is too slow.	3. Increase the feed speed.
	4. The material is prone to burning.	4. Take a shallow clean-up pass with a higher feed rate.
	5. If the burn is below the profile, then the router bit guide bearing (if present) is worn.	5. Remove the bit from the router and spin the bearing with your finger. If the bearing spins roughly, it needs to be replaced.
<b>Router vibrates excessively</b>	1. The router bit is not tightened.	1. Fully tighten the collet nut with wrench.
	2. The router bit diameter is too large and goes out of balance.	2. Reduce the router speed. If vibration is severe, do not use the router bit.
	3. The router bit shaft may be bent.	3. Discard the router bit if the shaft is bent.
	4. The router bit bearings may be worn	4. Discard router bit if the bearings are worn.

# EXPLODED VIEW & PARTS LIST



## **EXPLODED VIEW & PARTS LIST**

No.	Part No.	Description	Qty.
1	6033-001	Depth adjusting dial	1
2	6033-002	Exquisite adjusting rod	1
3	6033-003	Exquisite adjusting dial	1
4	6033-004	Depth set pole	1
5	6033-005	Screw St4 x 20mm	6
6	6033-006	Motor end cap	1
7	6033-007	Carbon brush cap	2
8	6033-008	Carbon brush	2
9	6033-009	Carbon brush holder	2
10	6033-010	Motor housing	1
11	6033-011	Bolt M4 x 90mm	4
12	6033-012	Washer 4	4
13	6033-013	Screw St4 x 16mm	9
14	6033-014	Side cap	1
15	6033-015	Speeder	1
16	6033-016	Motor field	1
17	6033-017	Bearing 629	1
18	6033-018	Bolt 5 x 70mm	2
19	6033-019	Armature	1
20	6033-020	Sunk bolt M4 x 8mm	4
21	6033-021	Bearing holding plate	1
22	6033-022	Bearing 6004	1
23	6033-023	Wind ring	1
24	6033-024	Motor base	1
25	6033-025	Left handle cover	1
26	6033-026	Bolt M5 x 16mm	4
27	6033-027	Left handel housing	1
28	6033-028	Bolt M4 x 12mm	1
29	6033-029	Dept lock lever	1
30	6033-030	Dept lock shaft	1
31	6033-031	Dept lock spring	1
32	RT6033-132	Smooth Sleeve	1
33	6033-033	Knob spring	7
34	6033-034	Knob 16mm	2
35	6033-035	Spindle lock button	1
36	6033-036	Button spring	1
37	6033-037	Thread plate	1
38	6033-038	Knob 10mm	6
39	6033-039	1/4" Shank adapor	1
40	6033-040	Spindel flange	1

No.	Part No.	Description	Qty.
41	6033-041	Bolt M6 x 20mm	2
42	6033-042	1/2" Collet & Nut assy	1
43	6033-043	Position rod	2
44	6033-044	Guide rod spring - long	1
45	6033-045	Buffer sleeve	2
46	6033-046	Guide rod - long	1
47	6033-047	Bolt M5 x 12mm	1
48	6033-048	Dept set block	1
49	6033-049	Steel ball	1
50	6033-050	Steel ball spring	1
51	6033-051	Power cord	1
52	6033-052	Power cord strain relief	1
53	RT6033-153	Lock-off switch	1
54	6033-054	Right handle housing	1
55	6033-055	Cord clamp	1
56	6033-056	Right handle cover	1
59	6033-059	Guide rod spring - short	1
60	6033-060	Circlip	1
61	6033-061	Guide rod - short	1
62	6033-062	Router base	1
63	6033-063	Thread post M6 x 14mm	2
64	6033-064	Base plate	1
65	6033-065	Template guide	1
66	6033-066	Spanner	1
67	6033-067	Centring pin	1
68	6033-068	Fence pole	2
69	6033-069	Bolt M6 x 8mm	4
70	6033-070	Fence sliding pad	2
71	6033-071	Straight fence bracket	1
72	6033-072	Dust extraction duct	1
73	6033-073	Sunk bolt M4 x 25mm	2
74	6033-074	Fence pole scale	1
75	6033-075	Profile guide	1
76	6033-076	Sunk bolt M5 x 10mm	4
77	6033-077	Nut M4	2
78	6033-078	Screw St4 x 12mm	2
79	6033-079	Depth lock insert	1
80	6033-080	Spring	2
81	RT6033-081	Guid rod spring liner	2

# **WARRANTY STATEMENT**

WEN Products is committed to building tools that are dependable for years. Our warranties are consistent with this commitment and our dedication to quality.

## **LIMITED WARRANTY OF WEN PRODUCTS FOR HOME USE**

GREAT LAKES TECHNOLOGIES, LLC (“Seller”) warrants to the original purchaser only, that all WEN consumer power tools will be free from defects in material or workmanship during personal use for a period of two (2) years from date of purchase or 500 hours of use; whichever comes first. Ninety days for all WEN products if the tool is used for professional or commercial use. Purchaser has 30 days from the date of purchase to report missing or damaged parts.

SELLER’S SOLE OBLIGATION AND YOUR EXCLUSIVE REMEDY under this Limited Warranty and, to the extent permitted by law, any warranty or condition implied by law, shall be the replacement of parts, without charge, which are defective in material or workmanship and which have not been subjected to misuse, alteration, careless handling, misrepair, abuse, neglect, normal wear and tear, improper maintenance, or other conditions adversely affecting the Product or the component of the Product, whether by accident or intentionally, by persons other than Seller. To make a claim under this Limited Warranty, you must make sure to keep a copy of your proof of purchase that clearly defines the Date of Purchase (month and year) and the Place of Purchase. Place of Purchase must be a direct vendor of Great Lakes Technologies, LLC. Purchasing through third party vendors, including but not limited to garage sales, pawn shops, resale shops, or any other secondhand merchant, voids the warranty included with this product. Contact [techsupport@wenproducts.com](mailto:techsupport@wenproducts.com) or 1-800-232-1195 with the following information to make arrangements: your shipping address, phone number, serial number, required part numbers, and proof of purchase. Damaged or defective parts and products may need to be sent to WEN before the replacements can be shipped out.

Upon the confirmation of a WEN representative, your product may qualify for repairs and service work. When returning a product for warranty service, the shipping charges must be prepaid by the purchaser. The product must be shipped in its original container (or an equivalent), properly packed to withstand the hazards of shipment. The product must be fully insured with a copy of the proof of purchase enclosed. There must also be a description of the problem in order to help our repairs department diagnose and fix the issue. Repairs will be made and the product will be returned and shipped back to the purchaser at no charge for addresses within the contiguous United States.

THIS LIMITED WARRANTY DOES NOT APPLY TO ITEMS THAT WEAR OUT FROM REGULAR USAGE OVER TIME, INCLUDING BELTS, BRUSHES, BLADES, BATTERIES, ETC. ANY IMPLIED WARRANTIES SHALL BE LIMITED IN DURATION TO TWO (2) YEARS FROM DATE OF PURCHASE. SOME STATES IN THE U.S. AND SOME CANADIAN PROVINCES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.


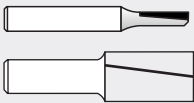

IN NO EVENT SHALL SELLER BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING BUT NOT LIMITED TO LIABILITY FOR LOSS OF PROFITS) ARISING FROM THE SALE OR USE OF THIS PRODUCT. SOME STATES IN THE U.S. AND SOME CANADIAN PROVINCES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.


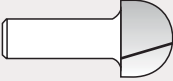

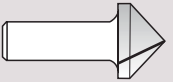

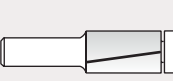




THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE IN THE U.S., PROVINCE TO PROVINCE IN CANADA AND FROM COUNTRY TO COUNTRY.

THIS LIMITED WARRANTY APPLIES ONLY TO ITEMS SOLD WITHIN THE UNITED STATES OF AMERICA, CANADA AND THE COMMONWEALTH OF PUERTO RICO. FOR WARRANTY COVERAGE WITHIN OTHER COUNTRIES, CONTACT THE WEN CUSTOMER SUPPORT LINE. FOR WARRANTY PARTS OR PRODUCTS REPAIRED UNDER WARRANTY SHIPPING TO ADDRESSES OUTSIDE OF THE CONTIGUOUS UNITED STATES, ADDITIONAL SHIPPING CHARGES MAY APPLY.

# ROUTER BITS

WEN offers a line of high quality router bits available for purchase directly from our website. Simply go to [wenproducts.com](http://wenproducts.com) and search the model number for the router bit that matches your needs.

Type	Description	Diameter	Cutting Length	Overall Length	Shank Size	Model No.	
  	A	Straight Bit - 1 Flute	1/8"	1/2"	2"	1/4"	RB001SF
	Straight Bit - 1 Flute	3/16"	1/2"	1-7/8"	1/4"	RB002SF	
	Straight Bit - 1 Flute	1/4"	3/4"	2"	1/4"	RB003SF	
	Straight Bit - 2 Flute	1/4"	3/4"	2"	1/4"	RB101FF	
	Straight Bit - 2 Flute	1/4"	1"	2-1/4"	1/4"	RB102FF	
	Straight Bit - 2 Flute	5/16"	3/4"	2"	1/4"	RB103FF	
	Straight Bit - 2 Flute	5/16"	1"	2-1/4"	1/4"	RB104FF	
	Straight Bit - 2 Flute	3/8"	3/4"	2"	1/4"	RB105FF	
	Straight Bit - 2 Flute	3/8"	1"	2-1/4"	1/4"	RB106FF	
	Straight Bit - 2 Flute	1/2"	3/4"	2"	1/4"	RB107FF	
	Straight Bit - 2 Flute	1/2"	1-1/4"	2-17/32"	1/4"	RB108FF	
	Straight Bit - 2 Flute	1/2"	1-1/4"	2-7/8"	1/2"	RB109FF	
	Straight Bit - 2 Flute	5/8"	1-1/4"	2-7/8"	1/2"	RB110FF	
	Straight Bit - 2 Flute	3/4"	3/4"	2"	1/4"	RB111FF	
	Straight Bit - 2 Flute	3/4"	1-1/4"	2-7/8"	1/2"	RB112FF	

Type	Description	Diameter	Cutting Length	Overall Length	Shank Size	Model No.	
 	B	1/8" Radius Core Box Bit1/	4"1/	4"1-	1/2"1/	4"	RB201CB
	1/8" Radius Core Box Bit1/	2"3/	8"1-	5/8"1/	4"	RB202CB	
 	C	V-Groove Bit1	1/2"1	1/2"1	-3/4"1	1/4"	RB301VG
	V-Groove Bit1	1/2"5	1/8"1	-7/8"1	1/4"	RB302VG	
	V-Groove Bit5	1/8"1	1/2"1	-3/4"1	1/4"	RB303VG	
	V-Groove Bit3	1/4"5	1/8"1	-7/8"1	1/4"	RB304VG	
 	D	Flush Trim & Bearing1	1/4"1	1/2"2	-1/8"1	1/4"	RB401FT
	Flush Trim & Bearing3	1/8"1	"2	-5/8"1	1/4"	RB402FT	
	Flush Trim & Bearing1	1/2"1	1/2"2	-3/16"	1/4"	RB403FT	
	Flush Trim & Bearing1	1/2"1	"2	-11/16"	1/4"	RB404FT	
	Flush Trim 3 Wing	1/2"	1"	2-11/16"	1/4"	RB501FW	
	Flush Trim 3 Wing	1/2"	1-1/2"	3-19/32"	1/2"	RB502FW	
 	E	1/8" Radius Roundover Bit & Bearing	3/4"	3/8"	2-1/8"	1/4"	RB601RD
	5/16" Radius Roundover Bit & Bearing	1-1/8"	9/16"	2-1/4"	1/4"	RB602RD	
 	F	Rabbeting Bit1	-1/4"1	1/2"2	-1/8"1	1/4"	RB701RA



**THANKS FOR  
REMEMBERING**  <sup>®</sup>