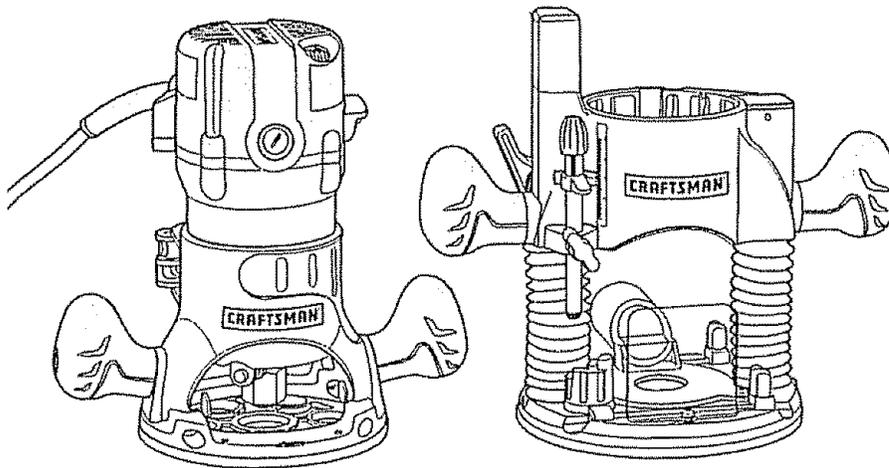


Operator's Manual



11.0 Amp/Variable Speed/2 Peak HP **Router with Fixed Base and Plunge Base**

Model No.
320.17543



 **DOUBLE INSULATED**

⚠ CAUTION Read, understand and follow all Safety Rules and Operating Instructions in this Manual before using this product.

Sears, Roebuck and Co.,
Hoffman Estates, IL 60179 U.S.A.
Visit our Craftsman website: www.craftsman.com

- WARRANTY
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9/6/06
4:45pm

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ONE YEAR FULL WARRANTY ON CRAFTSMAN® PRODUCT

If this Craftsman product fails due to a defect in material or workmanship within one year from the date of purchase, RETURN IT TO THE NEAREST SEARS STORE OR PARTS AND REPAIR CENTER OR OTHER CRAFTSMAN OUTLET IN THE UNITED STATES FOR FREE REPAIR (OR REPLACEMENT IF REPAIR PROVES IMPOSSIBLE).

This warranty does not include expendable parts such as lamps, batteries, bits or blades. If this Craftsman product is used for commercial or rental purposes, this warranty applies for only 90 days from the date of purchase.

This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

Sears, Roebuck and Co., Hoffman Estates, IL 60179

SAVE THESE INSTRUCTIONS!
READ ALL INSTRUCTIONS!

SAFETY SYMBOLS

The purpose of safety symbols is to attract your attention to possible dangers. The safety symbols, and the explanations with them, deserve your careful attention and understanding. The symbol warnings **DO NOT** by themselves eliminate any danger. The instructions and warnings they give are no substitutes for proper accident prevention measures.

 **WARNING:** BE SURE to read and understand all safety instructions in this manual, including all safety alert symbols such as "DANGER", "WARNING" and "CAUTION", BEFORE using these routers. Failure to follow all instructions listed below may result in electric shock, fire and/or serious personal injury.

SYMBOL MEANING



SAFETY ALERT SYMBOL: Indicates DANGER, WARNING, OR CAUTION. May be used in conjunction with other symbols or pictographs.



Failure to obey this safety warning **WILL** result in death or serious injury to yourself or to others. Always follow the safety precautions to reduce the risk of fire, electric shock and personal injury.



Failure to obey this safety warning **CAN** result in death or serious injury to yourself or to others. Always follow the safety precautions to reduce the risk of fire, electric shock and personal injury.



Failure to obey this safety warning **MAY** result in personal injury to yourself or others or property damage. Always follow the safety precautions to reduce the risk of fire, electric shock and personal injury.

DAMAGE PREVENTION AND INFORMATION MESSAGES

These inform user of important information and/or instructions that could lead to equipment or other property damage if not followed. Each message is preceded by the word "NOTE:" as in the example below:

NOTE: Equipment and/or property damage may result if these instructions are not followed.



 **WARNING:** The operation of any router can result in foreign objects being thrown into your eyes, which can result in severe eye damage. Before beginning power tool operation, **ALWAYS** wear safety goggles or safety glasses with side shield and a full-face shield when needed. We recommend a Wide Vision Safety Mask for use over eyeglasses or standard safety glasses with side shield, available at Sears Stores or other Craftsman® Outlets.

SAFETY INSTRUCTIONS

⚠ WARNING: BE SURE to read and understand all instructions in this manual before using these routers. Failure to follow all instructions may result in electric shock, fire and/or serious personal injury.

WORK AREA SAFETY

- 1 **Keep your work area clean and well lit.** Cluttered workbenches and 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 bystanders, children and visitors away while operating a power tool.** Distractions can cause you to lose control.
- 4 **Make your workshop childproof** with padlocks and master switches. Lock tools away when not in use.
- 5 **MAKE SURE the work area has ample lighting** so you can see the work and that there are no obstructions that will interfere with safe operation **BEFORE** using your router.

PERSONAL SAFETY

- 1 **KNOW your power tool.** Read this operator's manual carefully. Learn the router's applications and limitations, as well as the specific potential hazards related to this tool.
- 2 **STAY ALERT,** watch what you are doing and use common sense when operating a power tool.
- 3 **DO NOT** use tool while tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating power tools may result in serious personal injury.
- 4 **DRESS properly. DO NOT** wear loose clothing or jewelry. Pull back long hair. Keep your hair, clothing, and gloves away from moving parts. Loose clothing, or long hair can be caught in moving parts. Air vents often cover moving parts and should also be avoided.
- 5 **AVOID** accidental starting. Be sure switch is in "OFF" position before plugging in. **DO NOT** carry tools with your finger on the switch. Carrying tools with your finger on the switch or plugging in tools that have the switch in the "ON" position invites accidents.
- 6 **REMOVE** adjusting keys or blade wrenches before turning the tool "ON". A wrench that is left attached to a rotating part of the tool may result in personal injury.
- 7 **Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control of the tool in unexpected situations.
- 8 **ALWAYS SECURE YOUR WORK.** Use clamps or a vise to hold workpiece securely. It is safer than using your hand and frees both hands to operate tool.
- 9 **USE SAFETY EQUIPMENT.** Always wear eye protection. Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.
- 10 **DO NOT USE ON A LADDER or unstable support.** Stable footing on a solid surface enables better control of the tool in unexpected situations.

SAFETY INSTRUCTIONS cont.

TOOL USE AND CARE SAFETY

⚠ WARNING: BE SURE to read and understand all instructions before operating these routers. Failure to follow all instructions listed below may result in electric shock, fire and/or serious personal injury.

- 1 **ALWAYS** use clamps or other practical ways to secure and support the workpiece to a stable platform. Holding the work by hand or against your body is unstable and may lead to loss of control.
- 2 **DO NOT** force the tool. Use the correct tool and bit for your application. The correct tool and bit will do the job better and safer at the rate for which it is designed.
- 3 **DO NOT** use the tool if switch does not turn it "On" or "Off". Any tool that cannot be controlled with the switch is dangerous and must be repaired.
- 4 **DISCONNECT** the plug from the power source before making any adjustments, changing accessories or storing the tool. Such preventive safety measures reduce the risk of starting the tool accidentally.
- 5 **NEVER** leave the tool running. **ALWAYS** turn it off. **DO NOT** leave the tool until it comes to a complete stop.
- 6 **STORE** idle tools out of the reach of children and other untrained persons. Tools are dangerous in the hands of untrained users.
- 7 **MAINTAIN** tools with care. Keep cutting tools sharp and clean. Properly maintained tools with sharp cutting edges are less likely to bind and are easier to control.
- 8 **CHECK** for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tool's operation. If damaged, have the tool serviced before using. Many accidents are caused by poorly maintained tools.
- 9 **USE ONLY** accessories that are recommended for this tool. Accessories that may be suitable for one tool may become hazardous when used on another tool.

ELECTRICAL SAFETY

⚠ WARNING: Do not permit fingers to touch the terminals of plug when installing or removing the plug from the outlet.

- 1 Double insulated tools are equipped with 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 polarized outlet. Do not change the plug in any way.
- 2 Double insulation eliminates the need for the three-wire grounded power cord and grounded power supply system. Applicable only to Class II (double-insulated) tools. This router motor is double insulated.

⚠ WARNING: Double Insulation DOES NOT take the place of normal safety precautions when operating this tool.

SAFETY INSTRUCTIONS cont.

ELECTRICAL SAFETY cont.

- 3 **BEFORE** plugging in the tool, **BE SURE** that the outlet voltage supplied is within the voltage marked on the tool's data plate. **DO NOT** use "AC only" rated tools with a DC power supply.
- 4 **AVOID** body contact with grounded surfaces, such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is grounded.
- 5 **DO NOT** expose power tools to rain or wet conditions or use power tools in wet or damp locations. Water entering a power tool will increase the risk of electric shock.
- 6 **INSPECT** tool cords for damage. Have damaged tool cords repaired at a Sears Service Center. **BE SURE** to stay constantly aware of the cord location and keep it well away from the moving router.
- 7 **DO NOT** abuse the cord. **NEVER** use the cord to carry the tool by or to pull the plug from the outlet. Keep cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately. Damaged cords increase the risk of electric shock.

EXTENSION CORDS

Use a proper extension cord. **ONLY** use cords listed by Underwriters Laboratories (UL). Other extension cords can cause a drop in line voltage, resulting in a loss of power and overheating of tool. For this tool an AWG (American Wire Gauge) size of at least 14-gauge is recommended for an extension cord of 25-ft. or less in length. Use 12-gauge for an extension cord of 50-ft. Extension cords 100-ft. or longer are not recommended. Remember, a smaller wire gauge size has greater capacity than a larger number (14-gauge wire has more capacity than 16-gauge wire; 12-gauge wire has more capacity than 14-gauge). When in doubt use the smaller number. When operating a power tool outdoors, use an outdoor extension cord marked "W-A" or "W". These cords are rated for outdoor use and reduce the risk of electric shock.

CAUTION: Keep the extension cord clear of the working area. Position the cord so that it will not get caught on lumber, tools or other obstructions while you are working with a power tool.

WARNING: Check extension cords before each use. If damaged replace immediately. Never use tool with a damaged cord since touching the damaged area could cause electrical shock, resulting in serious injury.

SAFETY SYMBOLS FOR YOUR TOOL

The label on your tool may include the following symbols.

V	Volts
A	Amps
Hz	Hertz
W	Watts
min	Minutes
	Alternating current
	Direct current
	No-load speed
	Class II construction, Double Insulated
/min	Revolutions or Strokes per minute
	Indicates danger, warning or caution It means attention! Your safety is involved

SAFETY INSTRUCTIONS cont.

SERVICE SAFETY

- 1 If any part of this router combo kit is missing or should break, bend, or fail in any way; or should any electrical component fail to perform properly: **SHUT OFF** the power switch and remove the router plug from the power source and have the missing, damaged or failed parts replaced **BEFORE** resuming operation.
- 2 Tool service must be performed only at a **Sears Parts and Repair Center**. Service or maintenance performed by unqualified personnel could result in a risk of injury.
- 3 When servicing a tool, use only identical replacement parts. Follow instructions in the maintenance section of this manual. Use of unauthorized parts or failure to follow maintenance instructions may create a risk of electric shock or injury.

SAFETY RULES FOR ROUTERS

 **CAUTION:** Cutter bits coast after router is switched off.

1. **HOLD TOOL** by insulated gripping surfaces (handles) when performing an operation where the cutting tool may contact hidden wiring or its own cord. Contact with a "live" wire will make the exposed metal parts of the tool "live" and shock the operator.
2. **Maintain a firm grip** on the router with both hands to resist starting torque.
3. **NEVER attempt to use the router motor without first installing it in an approved fixed or plunge base.** Failure to heed this warning could result in personal injury and damage to the motor.
4. **MAKE SURE** the motor housing does not move up or down when clamped in the fixed or plunge base. If motor is not securely clamped in base, adjustments will not be accurate.
5. **DO NOT HAND-HOLD THE ROUTER IN AN UPSIDE DOWN OR HORIZONTAL POSITION.** The motor can separate from the base if not properly attached according to the instructions.
6. **TIGHTEN COLLET / NUT** securely to prevent the cutter bit from slipping. If the collet/nut is not securely tightened, the cutter bit may detach during use, causing serious personal injury.
7. **NEVER** tighten collet/nut without a cutter bit installed in the collet /nut.
8. **USE CLAMPS** or other practical ways to secure and support the workpiece to a stable platform and hold the workpiece rigidly in position. Holding the work by hand or against your body is unstable and may lead to loss of control.
9. **NEVER** hold the piece being cut in your hands or across your legs. It is important to support and clamp the workpiece properly in order to minimize body exposure, bit binding, or loss of control.
10. **ALWAYS** keep chip shield clean and in place.
11. **STAY ALERT** and clear the Router cutter bit path of any obstructions **BEFORE** starting the motor. Keep cutting area clear of all foreign objects while motor is running.
12. **CHECK TO SEE** that the cord will not "hang up" during routing operation.

SAFETY INSTRUCTIONS cont.

SAFETY RULES FOR ROUTERS cont.

13. **MAKE SURE** the cutter bit is not in contact with the workpiece before the switch is turned on. The bit must **ALWAYS** be running at full speed before contacting the workpiece.
14. **KEEP HANDS CLEAR OF CUTTER BIT** when motor is running to prevent personal injury.
15. **PROVIDE CLEARANCE** under workpiece for router cutter bit when through-cutting.
16. **KEEP CUTTING PRESSURE CONSTANT.** Do not overload the motor
17. **USE ONLY** sharp cutter bits that are not chipped or cracked. Blunt cutter bits will cause stalling and burn the workpiece.
18. **NEVER** use this router motor with a cutter bit larger than 3¹/₂-Inch in diameter.
19. **ALWAYS USE** cutter bits that are designed for this router. Never use cutter bits which are larger in diameter than the opening in the router sub-base. Cutter bits that have cutter diameters larger than the opening could cause possible loss of control or create other hazardous condition that could cause serious personal injury.
20. The sub-base on the fixed base and plunge base in this kit have an opening of 1¹/₄-Inch. To use cutter bits with a larger diameter, install and use a sub-base with a larger diameter opening (sold separately) at Sears stores or other Craftsman outlets
21. **DO NOT** use large router cutter bits for freehand routing. Use of large cutter bits when freehand routing could cause loss of control or create hazardous conditions that could result in serious personal injury. If using a router table, large bits should be used for edging only
22. **BE SURE BIT** is centered in template guide (sold separately) prior to template guide applications to avoid personal injury or damage to finished work.
23. **DO NOT REMOVE** more than ¹/₈-Inch in a single pass. Excessive depth of cut can result in loss of control that could result in personal injury.
24. After completing a cut, turn motor **OFF** and let it come to a complete stop **BEFORE REMOVING** router from workpiece.
25. Let the motor come to a **COMPLETE STOP** before putting the router down. Cutter bits coast after power is turned off
26. **ONLY** use router tables that conform to safe woodworking practices and offer proper guarding for the cutter bit. Use router tables that are UL classified and identified suitable for use with this specific router model. Failure to comply could result in serious personal injury
27. **Only use router tables with on-board switch controlled receptacles.** Failure to use router tables with all the appropriate safety features could result in serious personal injury
28. **DISCONNECT THE TOOL FROM POWER SOURCE** before making any adjustments or changing cutter bits.
29. If you are changing a bit immediately after use, **BE CAREFUL NOT TO TOUCH** the collet/nut or cutter bit with your hands or fingers. The heat buildup from cutting could cause severe burns. **ALWAYS** use the wrench provided.
30. **AVOID "CLIMB CUTTING".** See "OPERATION" section (pages 31 and 32) in this manual. "Climb-cutting" increases the chance for loss of control resulting in possible serious injury.

SAFETY INSTRUCTIONS cont.

⚠ WARNING: Use of this tool can generate dust containing chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

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

Your risk from these exposures varies, depending upon how often you do this type of work. To reduce your exposure to these chemicals:

- Work in a well-ventilated area
- Work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles

Avoid prolonged contact with dust from power sanding, sawing, grinding, drilling and other construction activities. Wear protective clothing and wash exposed areas with soap and water. Allowing dust to get into your mouth, eyes, or lay on the skin may promote absorption of harmful chemicals.

⚠ WARNING: Use of this tool can generate and/or disburse dust, which may cause serious and permanent respiratory or other injury. Always use NIOSH/OSHA approved respiratory protection appropriate for the dust exposure. Direct particles away from face and body.

ADDITIONAL RULES FOR SAFE OPERATION

⚠ WARNING: BE SURE to read and understand all instructions. Failure to follow all instructions listed below may result in electric shock, fire and/or serious personal injury.

- 1 **Know your power tool.** Read this operator's manual carefully. Learn the applications and limitations, as well as the specific potential hazards related to this tool. Following this rule will reduce the risk of electric shock, fire or serious injury
- 2 **ALWAYS wear safety glasses or eye shields when using this router.** Everyday eyeglasses have only impact-resistant lenses; they are NOT safety glasses
- 3 **PROTECT your lungs.** Wear a face mask or dust mask if the operation is dusty
- 4 **PROTECT your hearing.** Wear appropriate personal hearing protection during use. Under some conditions noise from this product may contribute to hearing loss
- 5 **ALL VISITORS AND BYSTANDERS MUST** wear the same safety equipment that the operator of the router wears.
- 6 **INSPECT** the tool cords periodically and if damaged have them repaired at your nearest Sears Service Center. **BE AWARE** of the cord location.

SAFETY INSTRUCTIONS cont.

ADDITIONAL RULES FOR SAFE OPERATION cont.

- 7 **ALWAYS** check the tool for damaged parts. Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine if it will operate properly and perform its intended function. Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tool's operation. A guard or other part that is damaged should be properly repaired or replaced at a Sears Service Center.
- 8 **INSPECT** and remove all nails from lumber before routing.
- 9 **SAVE THESE INSTRUCTIONS.** Refer to them frequently and use them to instruct others who may use this tool. If someone borrows this tool, make sure they have these instructions also.

UNPACKING

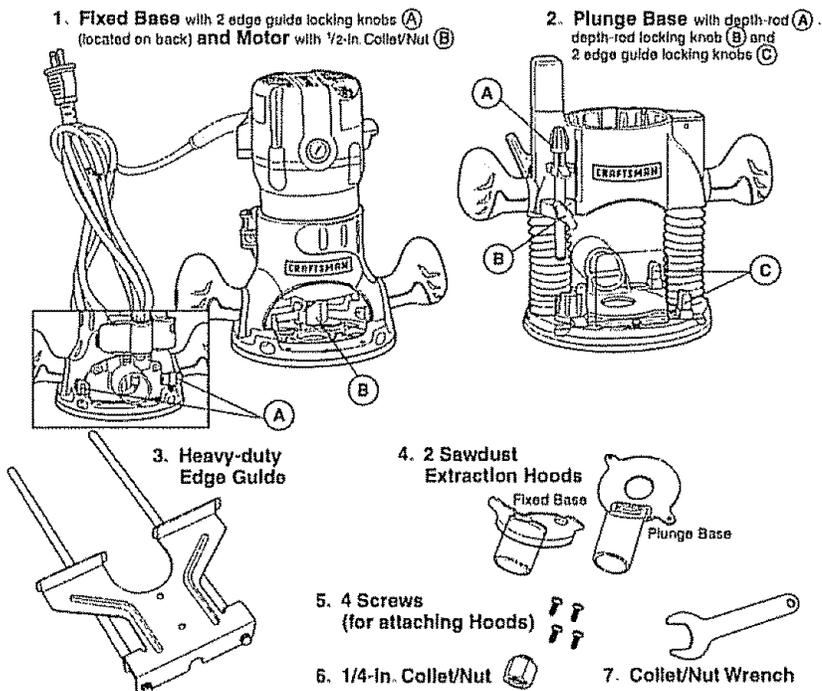
⚠ WARNING: Your router should NEVER be connected to the power source when you are assembling parts, making adjustments, installing or removing collets / nuts, cutter bits, cleaning or when it is not in use. Disconnecting the router will prevent accidental starting, which could cause serious personal injury.

- 1 The **Edge Guide** is screwed down with a wing nut into the top of the storage/carrying case.
- 2 The **Sawdust Extraction Hoods** (one for each base) are secured in the top/bottom of the case with hook and loop strap.
- 3 The extra **Collet / Nut** is in a parts bag with 4 screws that are used to attach the sawdust extraction hoods to the bases. The parts bag is tucked inside the sawdust hood's extraction chute.
- 4 The **Collet / Nut Wrench** is force-fitted into the bottom of the case.
- 5 Carefully lift the fixed base with motor and one of the collets/nuts already installed, out of the case and place on a stable flat surface.
- 6 Lift the plunge base out of the case and place on flat surface.
- 7 Inspect the items carefully to make sure that no breakage or damage has occurred during shipping. If any of the items mentioned are missing, (refer to Illustration "Parts List" on page 11), return the Router Combo Kit to your nearest Sears store or Craftsman outlet to have it replaced.

⚠ WARNING: If any parts are broken or missing, DO NOT attempt to plug in the power cord or operate router until the broken or missing parts are replaced. Failure to do so could result in possible serious injury.

UNPACKING cont.

PARTS LIST (Fig. 1)



DESCRIPTION

KNOW YOUR ROUTER KIT (Fig. 2)

NOTE: Before attempting to use your router, familiarize yourself with all of the operating features and safety requirements.

Your router has a precision built electric motor and it should be connected to a 120-volt, 60-Hz AC ONLY power supply (normal household current). **DO NOT** operate on direct current (DC). This large voltage drop will cause a loss of power and the motor will overheat. If the router does not operate when plugged into a correct 120-volt, 60-Hz AC ONLY outlet, check the power supply. This router has an 8-ft., 2-wire power cord (no adapter needed)

DESCRIPTION cont.

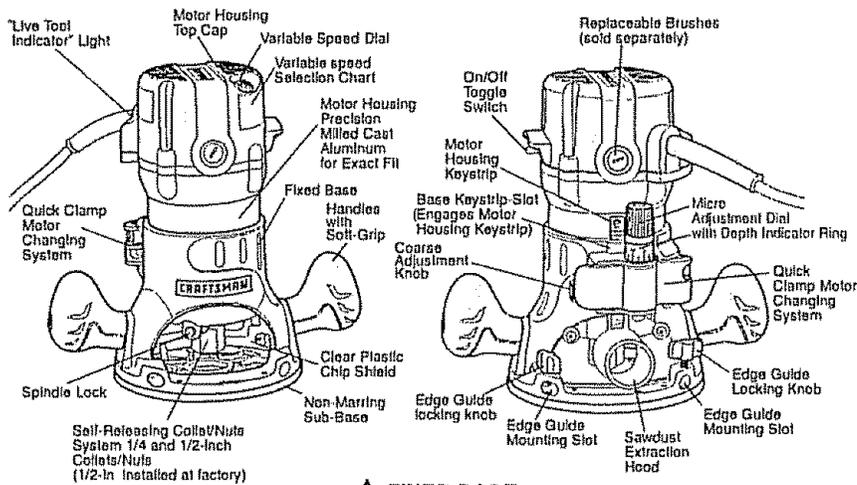
KNOW YOUR ROUTER KIT cont. (Fig. 2)

This Router Combo Kit has the following features:

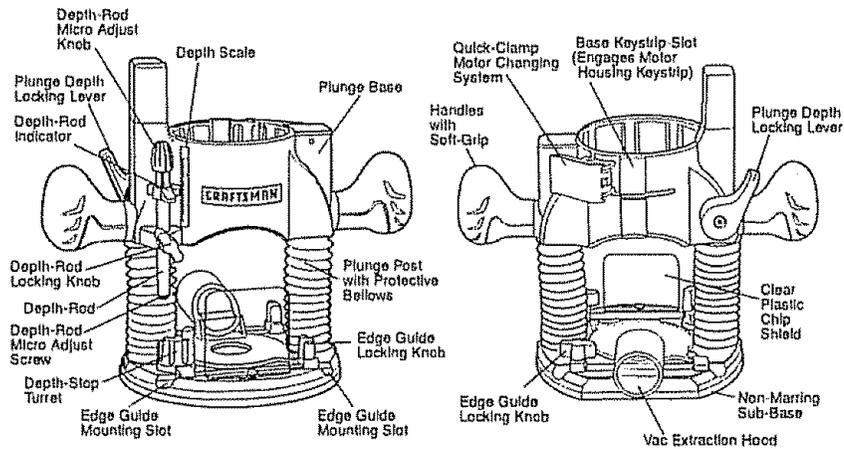
- 1 **11.0 Amp, 2 Peak HP, Variable Speed Motor** runs at 12,000 to 25,000 RPM (no-load speed)
- 2 **Variable Speed Dial** allows matching proper speed to material and cutter bit size
- 3 **Electronic Feedback Circuitry** provides soft starts for longer motor life, and maintains constant speed under load to help produce a quality finish in all materials
- 4 **Quick-clamp System** allows motor to be changed from fixed to plunge base without use of tools!
- 5 **Fixed Base features Coarse and Micro-Depth Adjustments** for accurate set-ups.
- 6 **Plunge Base features Fine and Micro Depth Rod Adjustments with Turret Stops** for precise set-ups and repetitive cutting
7. **Smooth Plunge Action** lowers bit into workpiece at 90° for more accurate cutting.
- 8 **Protective Plunge Post Bellows** protect guideposts from woodchips, dust, moisture
- 9 **Spindle Lock** for easy 1 wrench bit changes. Includes 1/4 and 1/2-Inch Self-Releasing Collets/Nuts for use with a wide variety of 1/4-in. and 1/2-in. router bits sold separately
10. **100% Ball Bearings** for smooth, efficient operation and long life.
- 11 Both bases feature **Ergonomically Designed Handles** with soft grip for comfort, maximum control with less vibration
- 12 **Both Bases Feature Large Base Openings and Large Chip Shields, combined with 3 LED Worklights on Motor** to provide high visibility of bit and workpiece
- 13 **Durable Non-marring Sub-bases** glide smoothly over workpiece. Sub-bases have cutter bit opening of 1 1/4-inches. **Do Not Use** a bit with a cutter diameter larger than 1 1/4-in. as it will not pass through the sub-base opening!
- 14 **Motor Housing** constructed of **High Density Nylon and Precision Milled Cast Aluminum** for strength and exact fit into bases
- 15 **Motor Housing** constructed of **Precision Milled Cast Aluminum** for strength and exact fit into bases
- 16 **High-Impact Resistant Motor Housing Top Cap and Handles on Bases** help protect tool from damage.
- 17 **Heavy-duty Edge Guide** for most routing applications such as decorative edging, grooving, dadoing, slotting and straight edge planing/trimming
18. Conveniently located **On/Off Toggle Switch**, side mounted for added visibility, easy access
19. **Sawdust Extraction Hoods** allow both bases to hook up to 1 1/4-inch vac hose attachment, sold separately
20. **"LIVE TOOL INDICATOR" Light** is green when saw is plugged into a power source. Light is located on motor housing top cap next to power cord inlet.
21. **Replaceable Brushes** (sold separately) for dependable service
22. Includes **Impact Resistant Case** for easy carrying and storage

DESCRIPTION cont.

KNOW YOUR ROUTER KIT cont. (Fig. 2)



▲ FIXED BASE
with Motor mounted in base



▲ PLUNGE BASE

DESCRIPTION cont.

PRODUCT SPECIFICATIONS	
Rating	11.0 Amps
No-load Speed	12,000 - 25,000 RPM
Peak HP	2
Input	120-volts, 60Hz AC
Collets/Nuts and Cutter Shank Diameters	1/4-in. 1/2-in.
Fixed Base Diameter	6-inches
Plunge Base Diameter	6 11/16-inches
Sub-Base Opening (Diameter for cutter bit use)	1 1/4-inches (for both bases)
Sub-Base Thickness	0.23-inches (6mm) (for both bases)
Fixed Base Depth of Cut	1 3/4-inches (45mm)
Plunge Base Depth of Cut	2 1/8-inches (55mm)

ASSEMBLY

NOTE: This tool is shipped completely assembled. To change motor from one base to the other, install or remove cutter bits, add accessories such as sawdust ejection hoods for hook-up to vacs, or install the heavy-duty edge guide, see the following instructions.

SELECTING THE CUTTER BIT

This router comes with 1/4-in and 1/2-in collets/nuts that accept 1/4 and 1/2-inch diameter shank cutter bits

⚠ WARNING: Do not use router cutter bits that have a cutter bit diameter larger than 1 1/4-inches as they will not fit through the sub-base opening, and will cause damage to the sub-base, the motor, and could cause serious personal injury to the operator.

NOTE: The sub-base installed on the fixed and plunge bases in this kit have a sub-base opening of 1 1/4-inches. To use cutting bits with a larger diameter, install a sub-base with a larger opening, sold separately at Sears stores or other Craftsman outlets.

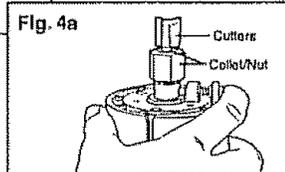
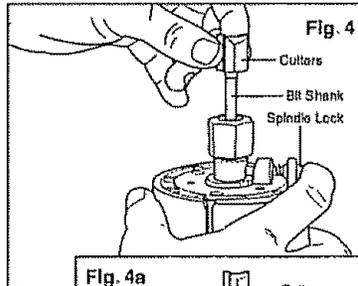
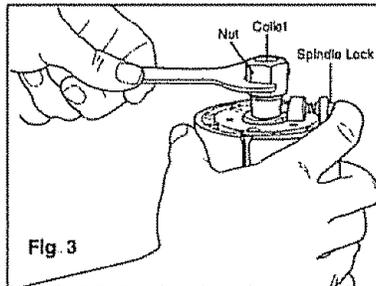
⚠ WARNING: When using router cutter bits with a cutter diameter larger than 1 1/2-inches, ALWAYS have the speed dial set at number 1 or 2. Refer to the Variable Speed Selection Chart located on top cap of the motor housing for the maximum speeds to use with cutting bit diameters. Failure to follow these instructions could cause loss of control of the router in the workpiece, causing possible serious personal injury.

ASSEMBLY cont.

SELECTING THE CUTTER BIT cont.

⚠ WARNING: ALWAYS turn motor off and unplug router before making any adjustments or installing accessories. Failure to unplug the router could result in accidental starting which can cause serious personal injury.

INSTALLING AND REMOVING THE CUTTING BIT (Figs. 3, 4 and 4a)



INSTALLING THE CUTTER BIT

- 1 Turn motor off and unplug from power source
- 2 Remove motor housing from fixed or plunge base

NOTE: See Instructions on Installing and removing the motor housing from the fixed and plunge bases on page 17.

- 3 Set the motor upside down on its top cap, with collet/nut pointing up
- 4 Press spindle lock button to engage and lock the spindle shaft and collet/nut. (Fig. 3)
- 5 Place the wrench on the collet/nut and turn counter-clockwise and loosen collet/nut slightly to accept cutter bit shank
- 6 Insert cutter bit shank into collet/nut assembly as far as it will go, then back the shank out until the cutters are approximately 1/8 to 1/4-inch away from the face of the collet/nut (Fig. 4, 4a)
- 7 With cutter bit inserted and spindle lock button pressed in engaging shaft, place wrench on collet/nut and turn clockwise until router cutter bit and collet/nut are firmly tightened.

⚠ WARNING: TIGHTEN COLLET/NUT SECURELY to prevent the cutter bit from slipping. If the collet/nut is not securely tightened, the cutter bit may detach during use, causing serious personal injury

NOTE: To ensure proper gripping of cutter bit shank and minimize run-out, the shank of the cutter bit must be inserted into the collet/nut at least 5/8-inch.

⚠ CAUTION: To prevent damage to tool, do not tighten collet/nut without a cutter bit installed.

ASSEMBLY cont.

REMOVING THE CUTTER BIT (Figs. 3 and 4 see page 15)

- 1 Turn motor off and unplug from power source
- 2 Remove motor from fixed or plunge base
- 3 Set the motor upside down on its top cap, with collet/nut pointing up
- 4 Press spindle lock button to engage and lock the spindle shaft and collet/nut, (Fig. 3).
- 5 Place the wrench on the collet/nut and turn counter-clockwise and loosen collet/nut slightly and remove cutter bit shank

COLLET/NUT CARE

From time to time, inspect the collet/nut to make sure it is clean and is gripping the cutter bit properly.

With the router cutter bit removed, turn the collet/nut counterclockwise (with spindle lock engaged) until it is free from motor's spindle shaft.

Blow the collet out with compressed air, and clean the tapered inside of the collet/nut with a tissue or fine brush.

Always make sure the cutter bit shank, collet/nut and motor spindle are clean and free of woodchips, dust, residue, grease and rust before installing.

Apply a slight amount of machine oil to spindle shaft if it looks dry.

Replace worn or damaged collets/nuts immediately.

NOTE: The collet/nut is self-releasing; it is NOT necessary to strike the collet/nut to free the router cutter bit. If cutter bit seems stuck after use, loosen collet/nut a little more until it releases.

CUTTER BITS

Get faster, more accurate cutting results by keeping cutter bits clean and sharp. Remove all accumulated pitch and gum from cutter bits after each use.

When sharpening cutter bits, sharpen only the inside of the cutting edge. Never grind the outside diameter. Be sure, when sharpening the end of a cutter bit, to grind the clearance angle the same as originally ground.

INSTALLING ROUTER MOTOR IN BASES

⚠ WARNING: NEVER use the router motor without installing it into either the fixed or plunge approved bases in this kit. Failure to do so could result in serious personal injury and damage to motor.

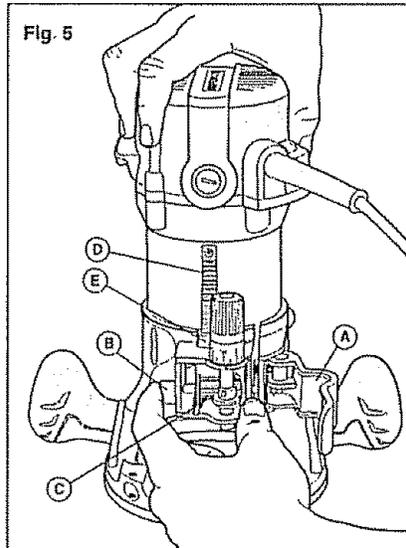
NOTE: Before installing motor housing in fixed or plunge base, have the collet/nut and router cutter bit you are going to use, already installed in motor housing. See pages 15, 16 "INSTALLING AND REMOVING THE CUTTER BIT".

⚠ WARNING: ALWAYS turn motor off and unplug router from power source before making any adjustments or installing accessories. Failure to turn motor off and unplug router could result in accidental starting which can cause serious personal injury.

ASSEMBLY cont.

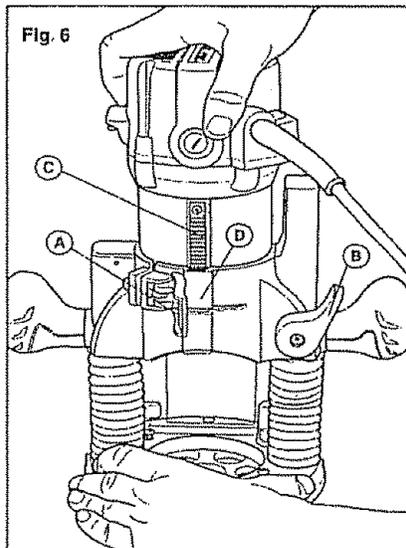
To Install Motor In Fixed Base (Fig. 5)

1. Turn motor off and unplug from power source
2. Place fixed base on flat surface
3. With back of fixed base facing you, open motor clamp (A)
4. Press in Coarse Adjustment Knob (B) to depart the gears (C) while you align the motor housing's keystrip (D) with the keystrip-slot (E) in the fixed base
5. When the motor's keystrip is aligned and engaged into the base's keystrip slot, slide the motor down into the fixed base
6. The motor will now slide up or down to set coarse adjustments when the coarse adjustment knob is pressed in
7. After all adjustments are made, close the motor clamp securely



To Install Motor In Plunge Base (Fig. 6)

1. Turn motor off and unplug from power source
2. Place plunge base on flat surface
3. With back of plunge base facing you, open motor clamp (A) and make sure plunge action is in "UP" position, with the plunge lock lever (B) locked down
4. With motor housing's keystrip (C) aligned with plunge base keystrip slot (D), lower motor housing into plunge base engaging keystrip into keystrip-slot.
5. Slide the motor into the base as far as it will go (E)
6. Close the motor clamp securely



OPERATION

REMOVING MOTOR FROM BASES

To Remove Motor From Fixed Base (see Fig. 5, on page 17)

- 1 Turn motor off and unplug from power source
- 2 Place router (fixed base/motor housing) on flat surface
- 3 With back of router facing you, open the motor clamp (A)
- 4 Push in coarse adjustment knob (B) to release motor housing "keystrip" (C) from gear in base, while you lift motor free of base
- 5 Set motor upside down on its top cap with collet pointing up and remove cutter bit
Store motor and base in case when not being used

To Remove Motor From Plunge Base (see Fig. 6, on page 17)

- 1 Turn motor off and unplug from power source
- 2 Place router (plunge base and motor housing) on flat surface
- 3 With back of plunge base facing you, open motor clamp (A) and make sure plunge action is in "UP" position, with the plunge lock lever (B) locked down.
- 4 Lift motor straight up out of base, sliding motor housing's "keystrip" (B) free from "keystrip slot" (C) in plunge base.
- 5 Set motor upside down on its top cap with collet pointing up and remove bit. Store motor and base in carry/storage case when not being used

⚠ WARNING: ALWAYS remove cutter bits from collet/nut when the router is not being used. Leaving bits installed could result in an accident causing serious personal injury.

ADJUSTING DEPTH OF CUT

⚠ WARNING: Your router should NEVER BE TURNED ON or be connected to the power source when you are assembling parts, making adjustments, installing or removing collets / nuts, cutter bits, cleaning or when it is not in use. Disconnecting the router will prevent accidental starting, which could cause serious personal injury.

NOTE: All depth adjustments on the Fixed Base must be made with the motor clamp open.

NOTE: For all Fixed Base Routers, the cutter bit depth equals the amount of the cutter that is exposed below the surface of the subbase.

DEPTH ADJUSTMENT WITH FIXED BASE (Figs. 7 and 8)

The fixed base is designed with a micrometer fine adjustment worm gear system. When the bit is lowered to the approximate position desired (coarse setting), the system then can be micro adjusted to the precise depth.

OPERATION cont.

Coarse Adjustment

Depressing the Coarse Adjustment Knob (B) allows you to quickly lower or raise the cutter bit to a larger or approximate depth setting

Fine Adjustment

NOTE: Be sure the worm gear system is engaged before making fine adjustments. Test it by turning the Fine Adjustment Dial (C) clockwise and counter-clockwise to see if the bit lowers and raises. If it does not, press in the Coarse Adjustment Knob and turn the Fine Adjustment Dial until the gears engage, then reset zero "0" on Depth Indicator Ring (D).

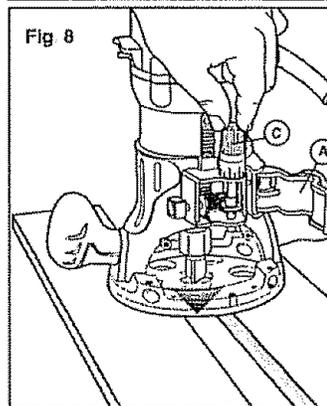
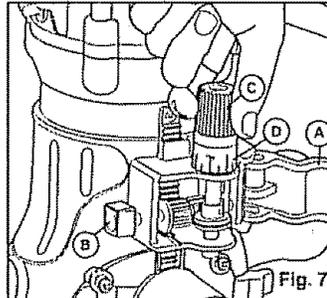
The Depth Indicator Ring (D) located on the Fine Adjustment Dial is marked incrementally in 64's. Turning the fine adjustment dial clockwise 180° (1/2 turn), lowers the cutter bit 1/16-inch. One full turn clockwise (360°) zero "0" to zero "0" lowers the bit 1/8-in.

The incremental lines between the 64th marks are 1/128's for super fine micro adjustments. The system allows a maximum of 7 full 360° revolutions, clockwise, to lower the cutter bit 7/8-in.

The Depth Indicator Ring may be reset to zero "0" without moving the fine adjustment dial. This allows the user to begin adjustments from any reference point desired.

To Adjust Depth (Figs. 7 and 8)

1. Turn motor off and unplug from power source
2. Place router on a flat, level surface with back of fixed base facing you. Open Motor Clamp (A).
3. With the cutter bit already installed, Press in Coarse Adjustment Knob (B), and lower motor into base until the cutter bit very close to the flat surface the base is sitting on. Turn Fine Adjustment Dial (C) until cutter bit "just" touches the flat surface the base is sitting on. Then lock Motor Clamp (A).
4. While continuing to press the Coarse Adjustment Knob (B), turn the Fine Adjustment Dial (C) until ZERO "0" mark on Depth Indicator Ring (D) is lined up with the " " mark on base.
5. Release the Coarse Adjustment Knob, making sure the "0" stays lined up with the mark.
6. Place the router on two level scrap workpieces, positioned so the cutter bit can be lowered below the subbase (see Fig. 8).
7. Turn the Fine Adjustment Dial (C) clockwise to lower the bit to the desired depth of cut. Turn the dial counterclockwise to raise the cutter bit.
8. Once your depth of cut is set, close the motor clamp (A) securely.



OPERATION cont.

NOTE: Making a single deep cut is never advisable. Smaller diameter cutter bits are easily broken by too much side thrust and torque. Larger cutter bits will cause a rough cut and be difficult to guide and control. For these reasons, **DO NOT EXCEED 1/8-IN DEPTH OF CUT** in a single pass.

Deep Cuts

The proper cutting depth, (for each pass), is always determined by the material, the cutter bit size and type, and the power of the motor.

Always make several progressively deeper cuts by starting at one depth and then make several passes, each time increasing the cutting depth until your desired depth is reached.

Making a cut that is too deep will stress the motor and the cutter bit, and it may burn the workpiece and dull the cutter bit. It could also "grab" too much of the workpiece and cause you to lose control of the router, causing a serious accident.

To be certain that your depth settings are as desired, always make test cuts in scrap material similar to your workpiece before beginning your final cutting.

Remember, knowing the right depth for each cut comes with routing experience.

DEPTH ADJUSTMENT WITH THE PLUNGE BASE

⚠ WARNING: Your router should **NEVER** be turned ON or be connected to the power source when you are assembling parts, making adjustments, installing or removing collets / nuts, cutter bits, cleaning or when it is not in use. Disconnecting the router will prevent accidental starting, which could cause serious personal injury.

PLUNGING ACTION (Fig. 9)

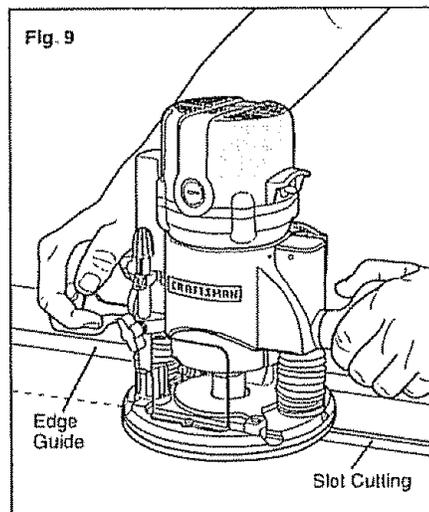
The plunge base feature simplifies depth adjustments and allows the cutting bit to be accurately lowered down into the workpiece for more precise set-ups.

To lower the cutting bit, release the plunge-lock lever by moving it "Up" to the unlocked position.

Apply an even downward pressure on the plunge action until the cutter bit reaches the desired depth. Then move the plunge-lock lever "Down" to the locked position.

To raise the bit and the plunge action, unlock the plunge lock lever and the cutter bit and plunge action will automatically retract from the workpiece and return to the raised position.

Always have the plunge action in the raised position and locked when the bit is not cutting in the workpiece.



OPERATION cont.

DEPTH-STOP ROD AND DEPTH-STOP TURRET (Figs. 10 and 11)

The Depth-Stop Rod and the Depth-Stop Turret are used to control the cutting depth as follows:

- 1 Turn motor off and unplug from power source.
- 2 With the cutting bit already installed, lower the plunge action until the cutter bit makes contact with the flat, level surface the router is sitting on. Lock the plunge depth locking lever (F). This position is ZERO - "0" from which further depth adjustments can be made.
- 3 To set a desired depth-of-cut, rotate depth-stop turret until the **Lowest step of the turret (A)** is aligned directly under the **Depth-Stop Rod (B)** (see fig. 10)

Loosen the **Depth Rod Locking Knob** and lower the depth-stop rod until it contacts the lowest step on the turret.

Slide the **Clear Plastic Depth-Indicator (D)** until the red line on the indicator is lined up with ZERO - "0", marked in black on the bottom of the depth scale. (This is now the indicating point at which the bit makes contact with the workpiece).

- 4 To set a desired cutting depth, slide the **Depth-Stop Rod** up until the **Red Line** on the **Clear Plastic Depth-Indicator** points to your desired cutting depth on the **Depth Scale (E)**. Secure the **Depth-Stop Rod** at this position by tightening the **Depth Rod Locking Knob**.
- 5 Unlock the **Plunge Lock Lever (F)** to allow the bit to automatically retract to the up position.
- 6 The desired depth-of-cut may now be achieved by plunging the router down until the depth-stop rod contacts the selected step on the depth-stop turret.

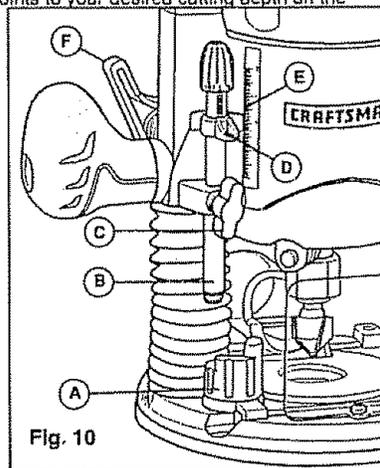


Fig. 10

NOTE: When making depth adjustments on the plunge base, the motor clamp should always be closed securely.

OPERATION cont.

Making Deep Cuts with the Depth-Stop Turret (Fig. 11)

NOTE: Making a single deep cut is never advisable. Smaller diameter cutter bits are easily broken by too much side thrust and torque. Larger cutter bits will cause a rough cut and be difficult to guide and control. For these reasons, **DO NOT EXCEED 1/8-IN. DEPTH OF CUT** in a single pass.

To produce deep cuts, always make several progressively deeper cuts by starting with the **Highest Step** on the depth-stop turret, and after each cut rotate the turret to the next lowest step until the final **Lowest or Last** step is reached.

Each of the 4 steps progresses by 1/4th-in. increments. The 4 steps represent a total of "0"-in. to 3/4-in. with a full 360° rotation of the turret. Repeat this process if necessary.

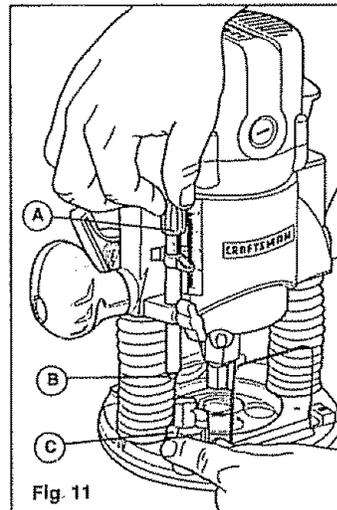
Micro Adjustments with the Depth-Stop Rod and Depth-Stop Turret

The Depth-Stop Rod has a **Micro Adjustment Knob (A)** that turns a **screw (B)** (inside the rod) either clockwise or counterclockwise (lowering or raising) the depth-stop rod on the **turret (C)** for micro-fine adjustments of the plunge depth.

Each complete revolution of the **Micro Adjustment Knob** adjusts the plunging depth by 5/127th inch.

A reference indicator line is embossed into the Depth-Stop Rod under the fine-adjustment knob to set "0".

When micro-adjusting the plunge depth, before setting the **Depth-Stop Rod and Depth-Stop turret**, always make sure the micro adjustment screw has been turned down (clockwise) several revolutions from its top, or starting position, so it can be adjusted upward.



Always set your micro adjustments with the plunge action in the **RAISED, (or up) position, and locked down.**

To use the micro adjustment knob once the depth rod and turret have been set, check the final depth setting and micro adjust as follows:

- To micro-increase the plunge depth, raise the micro adjustment screw by turning the knob counterclockwise the desired amount.
- To micro-reduce the plunge depth, lower the micro adjustment screw by turning the knob clockwise the desired amount.

OPERATION cont.

TOGGLE "ON/OFF" SWITCH (Fig. 12)

Your router motor is turned "ON" and "OFF" by the toggle switch located on the top cap of the motor housing

The left side of the toggle switch hood (as you face it) is marked "I" for "On" and the right side (as you face it) is marked "O" for "Off".

TO TURN THE MOTOR "ON". Push the toggle switch to the left side marked "I" or "On"

TO TURN THE MOTOR "OFF" Push the toggle switch to the right side marked "O" or "Off".

Always hold the router and cutter bit away from the workpiece when turning the toggle switch "On". Only contact the workpiece with the router and cutter bit after the router has reached full speed. ONLY remove the router and cutter bit from the workpiece AFTER turning the router motor "OFF", and the cutter bit comes to a complete stop

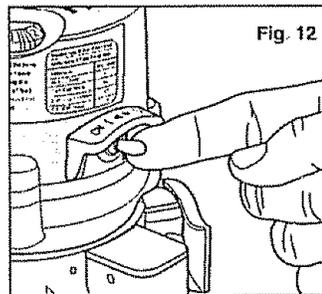


Fig. 12

SOFT START FEATURE

Electronic feedback control minimizes torque twist, customary in larger router motors, by limiting the speed at which the motor starts. This increases the motor's life.

LED WORKLIGHTS (Fig. 13)

Your router motor has 3 built-in worklights located around the collet/nut to provide high visibility of workpiece when cutting. These lights are always "On" when the toggle switch is in the "On" position

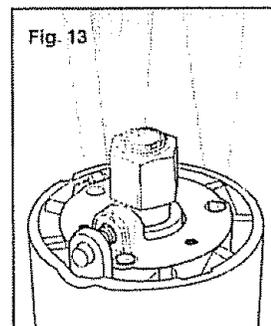


Fig. 13

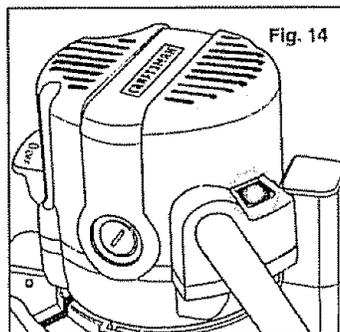


Fig. 14

"LIVE TOOL INDICATOR" LIGHT (Fig. 14)

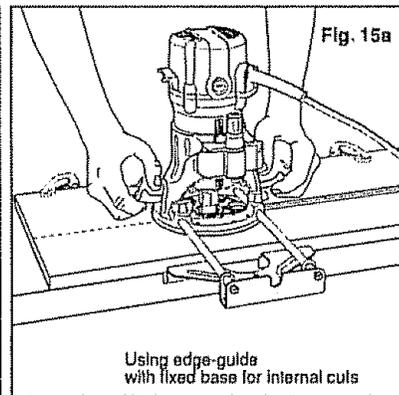
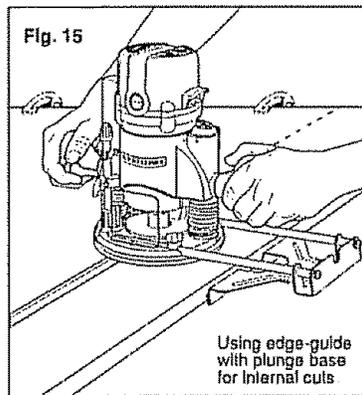
Your router also has a "LIVE TOOL INDICATOR" green light, located on the motor housing top cap where the power cord enters the motor housing. This green light is always on when router motor is plugged into power source

OPERATION cont.

HEAVY-DUTY EDGE GUIDE (Figs. 15 and 15a)

Your Router Combo Kit comes with a Heavy-Duty Edge Guide. This edge guide can be used as an aid in routing applications such as decorative edging, straight edge planing and trimming, grooving, dadoing and slotting.

To assemble onto fixed or plunge bases, simply insert edge guide rods into edge guide mounting slots, adjust to desired position, and lock down with the edge guide locking knobs.



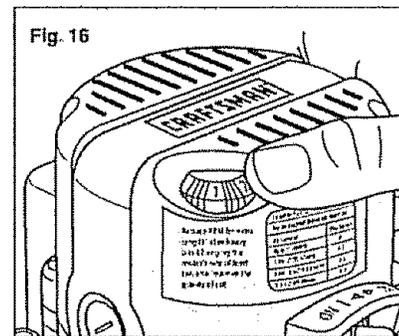
ELECTRONIC VARIABLE SPEED CONTROL (Fig. 16)

The electronic speed control feature allows motor speed to be matched to cutter size and material hardness for an improved finish and extended bit life.

Speed changes are made starting at "1" by rotating the Speed Control Dial to the "LEFT" to increase the speed, and to the "RIGHT" to decrease the speed as indicated on the Dial, numbered 1 through 6.

The speed may be changed while the router is "ON", but not if the cutter bit is in the workpiece.

Your router motor top cap has a "Variable Speed Selection Chart" located above the "ON/OFF" toggle switch, to help you determine the correct speed for the cutter bit being used.



⚠ WARNING: Before operating your router follow all safety instructions in this manual. Failure to do so could result in serious personal injury.

OPERATION cont.

Variable Speed Selection Chart	
Never exceed these bit speeds	
Cutter Bit Diameter	Max. Speed
Up to 1-in. (25mm)	6
1 1/4-in. to 2-in. (30-50mm)	4 - 5
2 1/4-in. to 2 1/2-in. (55-65 mm)	2 - 3
3-in. to 3 1/2-in. (75-90mm)	1 - 2

Reduce the speed when using extra large 1-in. plus, or heavy cutter bits. Changing the router's rate of feed can also improve the quality of the cut.

DIAL SETTING	RPM	APPLICATION
1	12,000	Non-ferrous metal, hardwoods, larger diameter cutter bits
2	14,000	
3	16,000	
4	18,000	Softwoods, plastics, counter tops, smaller diameter cutter bits
5	20,000	
6	25,000	

The speed charts above indicate the relationship between speed settings and the cutting application. Exact settings are determined by operator experience and preference, and also by recommendations by manufacturers of cutter bits.

ELECTRONIC FEEDBACK CIRCUITRY

The router's electronic feedback circuitry monitors and adjusts power to maintain the desired RPM for consistent performance and control, providing constant speed under load for a quality finish in all materials.

PLACING THE ROUTER ONTO THE WORKPIECE AND STARTING THE CUT

NOTE: Making test cuts is essential with most routing applications. Even with careful set-ups you won't know exactly how the cut will go until you try it out. A test cut will give you a feel for the set-up, the router's speed, the depth of cut and how the cutter bit reacts to the workpiece.

Much of routing is a trial-and-error process of making various adjustments, followed by test cuts as you become familiar with your router's operational abilities. To avoid ruining good material, make your test cuts on scrap materials.

Placing your router onto a workpiece (starting the cut) with a fixed base or a plunge base, depends on the type of routing you are going to produce: **Edge Routing** or **Internal Routing**.

OPERATION cont.

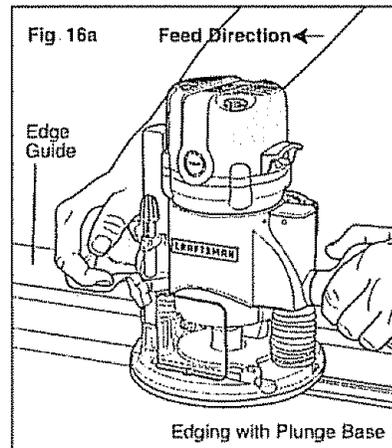
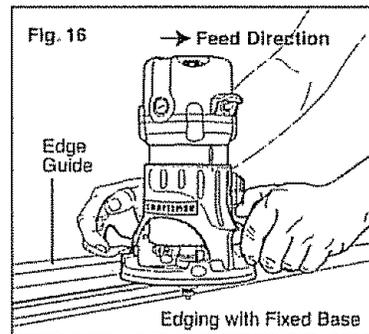
EDGE ROUTING OR INTERNAL ROUTING

For ease of operation and to maintain proper control, your router has two handles, one on each side of the router base. When operating the router, always hold it firmly with both hands (see Fig. 16 and 16a.)

Turn the router "On", let the motor build to its full speed, then gradually feed the cutter bit into the workpiece. **ALWAYS** be alert and watch what you are doing **NEVER** operate the router when you are fatigued.

EDGE ROUTING (Figs. 16 and 16a)

- 1 With depth-of-cut set, place router on edge of workpiece, making sure the cutter does not contact the workpiece. (With plunge base, have plunge action locked in the down position and ready to cut.)
- 2 Have an edge guide (board or metal straightedge) clamped in place to help guide router's base when making your edge cut.
- 3 Turn the router "On", and let the motor build to its full speed.
- 4 To begin your cut, gradually feed the cutter bit into the edge of the workpiece.
- 5 When cut is completed, turn motor "Off" and let cutter bit come to a complete stop before removing it from the workpiece.
- 6 Unplug router from power source, place fixed base router upside down on worktable, place plunge router on worktable, and inspect finished cut in workpiece.



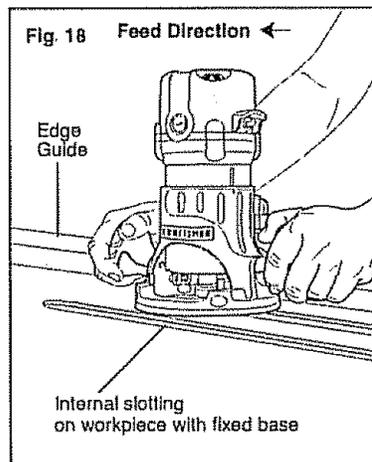
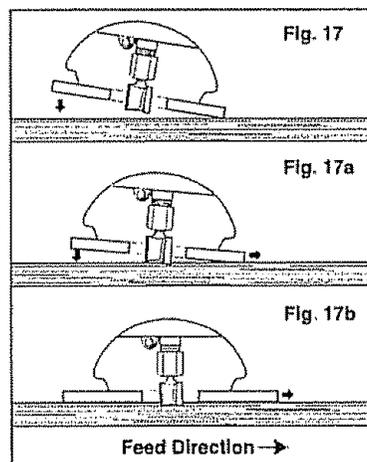
⚠ WARNING: Always securely clamp your workpiece and keep a firm grip on the router base with **BOTH HANDS** at all times. Failure to do so could result in loss of control causing possible serious personal injury.

⚠ WARNING: Removing cutter bit from workpiece while it is still rotating could damage workpiece and result in loss of control, causing serious personal injury.

OPERATION cont.

INTERNAL ROUTING WITH FIXED BASE (Figs. 17, 17a, 17b and 18)

- 1 With depth-of-cut set, lift fixed base router and place on workpiece with leading edge of sub-base contacting workpiece first (Fig. 17).
- 2 Turn motor "On" and let motor build up to its full speed, be careful not to let cutter bit contact the workpiece.
- 3 To begin your cut, gradually feed the cutter bit into the workpiece until the subbase is level with the workpiece (see Fig. 17a and 17b).
- 4 When cut is completed, turn motor "Off" and let cutter bit come to a complete stop before removing it from the workpiece.
- 5 Unplug router from power source, place router upside down on worktable, inspect finished cut in workpiece.



⚠ WARNING: Always securely clamp your workpiece and keep a firm grip on the router base with BOTH HANDS at all times. Failure to do so could result in loss of control causing possible serious personal injury.

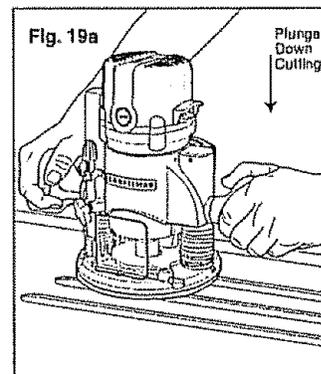
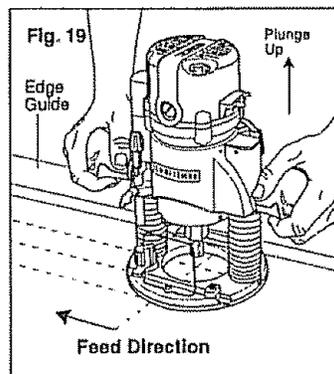
⚠ WARNING: Removing cutter bit from workpiece while it is still rotating could damage workpiece and result in loss of control, causing serious personal injury.

NOTE: Making test cuts is essential with most routing applications. Even with careful set-ups you won't know exactly how the cut will go until you try it out. A test cut will give you a feel for the set-up, the router's speed, the depth of cut and how the cutter bit reacts to the workpiece.

OPERATION cont.

INTERNAL ROUTING WITH PLUNGE BASE (Figs. 19 and 19a)

1. With depth-of-cut set, and the plunge action locked in the raised (Up) position, turn motor "On" and let motor build up to its full speed (see Fig. 19).
2. To begin your cut, unlock the plunge lock lever and gently lower the plunge action down evenly into the workpiece (see Fig. 19a).



3. When the desired depth-of-cut is achieved, lock the plunge lock lever (Down) and proceed to make your cut (see Fig. 19a).
4. When cut is completed, turn motor "Off" and let cutter bit come to a complete stop.
5. When cutter bit comes to a complete stop, unlock plunge lock lever (Up) and plunge action will automatically retract cutter bit from workpiece.

⚠ WARNING: Removing cutter bit from workpiece while it is still rotating could damage workpiece and result in loss of control, causing serious personal injury.

6. Unplug router from power source, place router on worktable, inspect finished cut in workpiece.

⚠ WARNING: Always securely clamp your workpiece and keep a firm grip on the router base with BOTH HANDS at all times. Failure to do so could result in loss of control causing possible serious personal injury.

OPERATION cont.

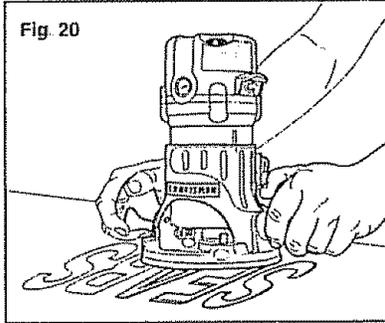
FREEHAND ROUTING WITH THE FIXED BASE (Fig. 20)

⚠ WARNING: Do not use large cutter bits for freehand routing. Use of large cutter bits when freehand routing could cause loss of control or create other hazardous conditions that could result in personal injury. If using a router table, large bits should be used for edging only.

When used freehand, the fixed base router becomes a flexible and versatile tool. This flexibility makes it possible to easily rout signs, relief sculptures, etc. When freehand routing:

1. Draw or layout the pattern on the workpiece
2. Choose the appropriate bit
3. Rout the pattern in two or more passes. Do not exceed 1/8-in. depth of cut in a single pass. This will help provide better control as well as serve as a guide on the next passes.

Fig. 20



NOTE: A core box or V-groove bit is often used for routing letters and engraving objects. Straight bits and ball mills are often used to make relief carvings. Veining bits are used to carve small, intricate details.

NOTE: Making a single deep cut is never advisable. Smaller diameter bits are easily broken by too much side thrust and torque. Larger bits will cause a rough cut and be difficult to guide and control. For these reasons, **DO NOT EXCEED 1/8-IN. DEPTH OF CUT** in a single pass.

⚠ WARNING: Always securely clamp your workpiece and keep a firm grip on the router base with **BOTH HANDS** at all times. Failure to do so could result in loss of control causing possible serious personal injury.

OPERATION cont.

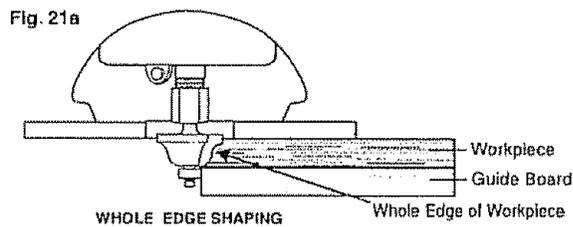
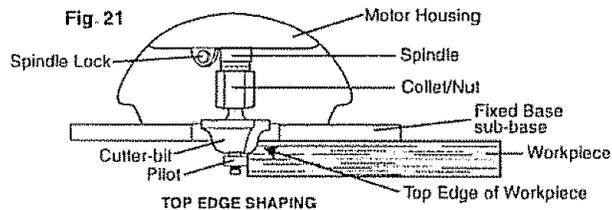
EDGING WITH A PILOT BIT (Figs. 21 and 21a)

The arbor-type bits with pilots are excellent for edge shaping of any workpiece edge that is either straight, or curved at a curvature as great or greater than the radius of the bit to be used. The pilot prevents the bit from making too deep a cut; and holding the pilot firmly in contact with the workpiece edge throughout prevents the cut from becoming too shallow.

Whenever the workpiece thickness, together with the desired depth of cut (as adjusted by router depth setting) are such that only the top part of the edge is to be shaped (leaving at least a 1/16-in. thick uncut portion at the bottom), the pilot can ride against the uncut portion, which serves to guide it (see Fig. 21).

If the workpiece is too thin or the bit set too low so that there will be no uncut edge to ride the pilot against, an extra board to act as a guide must be placed under the workpiece (see Fig. 21a). This "guide" board must have exactly the same contour - straight or curved - as the workpiece edge. If it is positioned so that its edge is flush with the workpiece edge, the bit will make a full cut (in as far as the bit radius). On the other hand, if the guide is positioned as shown in Fig. 21a (out from the workpiece edge), the bit will make less than a full cut - which will alter the shape of the finished edge.

NOTE: The size (diameter) of the pilot that is used determines the maximum cut width that can be made with the pilot against the workpiece edge (the small pilot exposes all of the bit; the large one reduces this amount by 1/16-in.). Any of the piloted cutter bits can be used without a pilot for edge shaping with guides.

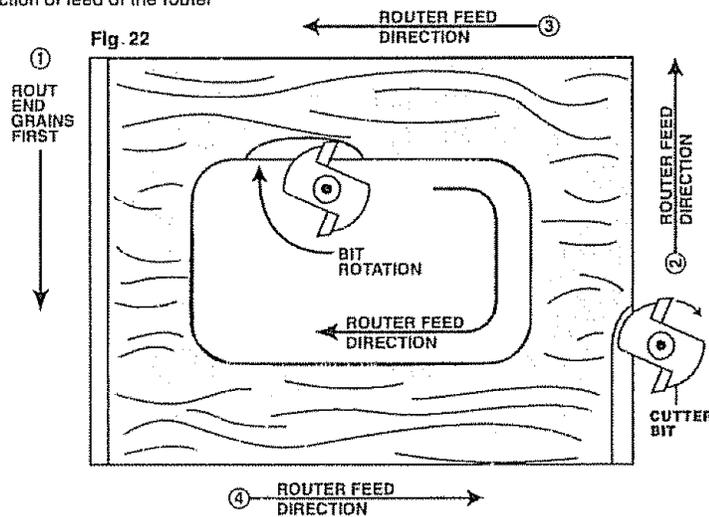


⚠ WARNING: Always securely clamp your workpiece and keep a firm grip on the router base with BOTH HANDS at all times. Failure to do so could result in loss of control causing possible serious personal injury.

OPERATION cont.

FEEDING THE ROUTER (Fig. 22)

The secret to professional routing is in making a careful set-up for the cut, selecting the proper depth of cut, knowing how the cutter bit reacts in your workpiece, and the rate and direction of feed of the router.



DIRECTION OF FEED - EXTERNAL CUTS

The router motor and cutter bit rotate clockwise. This requires the feed of the cutter bit to be from left to right (see Fig. 22). Feeding the bit from left to right will cause the bit to pull the router towards (up against) the workpiece.

If you feed the router in the opposite direction (right to left), the rotating force of the cutter bit will tend to throw the bit away from the workpiece, making it hard to control; this is called "Climb-Cutting"; cutting in the opposite direction of the proper feed direction "Climb Cutting" increases the chance for loss of control, resulting in possible personal injury. When "Climb Cutting" is required (backing around a corner for example), exercise extreme caution to maintain control of the router.

Because of the high speed of the cutter bit during a proper feeding operation (left to right), there is very little kickback under normal conditions. However, if the cutter bit strikes a knot, an area of hard grain in the wood workpiece, or a foreign object, the normal cutting action could be affected and cause "Kickback".

This Kickback may cause damage to your workpiece, and could cause you to lose control of the router, causing possible personal injury. Kickback is always in the opposite direction of the clockwise cutter bit rotation, or counterclockwise.

To guard against and help prevent Kickback, plan your set-up and direction of feed so you're always thrusting the router, keeping the sharp edges of the cutter bit continuously biting straight into new (uncut) wood (workpiece). Also, always inspect your workpiece for knots, hard grain, and foreign objects that could cause a kickback problem.

OPERATION cont.

DIRECTION OF FEED - INTERNAL CUTS (Figs. 23 and 23a)

When making an internal cut, such as a groove, dado or slot, always have the guide you are using with the router (edge guide, straight edge, board guide) on the right-hand side of the router as you make your cut, (see Fig. 23)

When the guide is positioned on the right hand side of the router, the router travel should be from left to right and "counterclockwise" around curves (see Fig. 23). This counterclockwise action around the curve could cause "Climb cutting". Always be alert and exercise extreme caution to maintain control of the router when making this type of cut around curves.

When the guide is positioned as shown in Fig. 23a, the router travel should be from left to right and clockwise around curves.

If there is a choice, the set-up in Fig. 23 is easier to use, but there is the possibility of "Climb Cutting" around curves. In either case, Fig. 23 or Fig. 23a, the sideways thrust of the router cutting is always against the guide, as is proper.

Fig. 23 GUIDE OUTSIDE

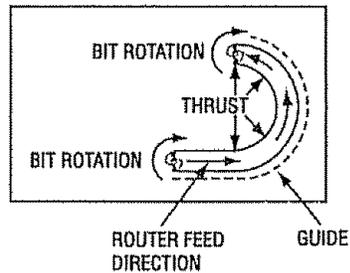
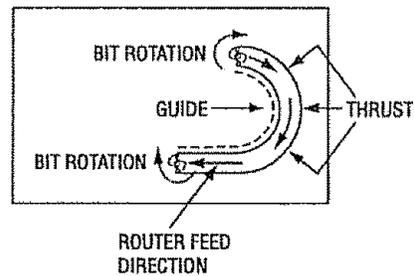


Fig. 23a GUIDE INSIDE



⚠ WARNING: Always securely clamp your workpiece and keep a firm grip on the router base with BOTH HANDS at all times. Failure to do so could result in loss of control causing possible serious personal injury.

OPERATION cont.

RATE OF FEED (Figs. 24 and 24a)

The proper rate of feed depends on several factors: the hardness and moisture content of the workpiece, the depth of cut, and the cutting diameter of the bit. When you are cutting shallow grooves in soft woods such as pine, you may use a faster rate of feed. When making deep cuts in hardwoods such as oak, you should use a slower rate of feed.

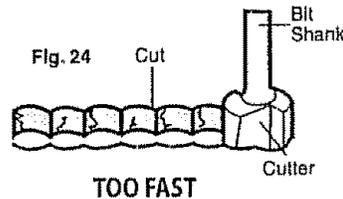
FEEDING TOO FAST (Fig. 24)

Clean and smooth finished cuts can only be achieved when the cutter bit is rotating at a relatively high speed, taking very small bites, producing tiny, clean cut chips.

Forcing the feed of the cutter bit forward too fast slows the RPM of the cutter bit, and the bit takes bigger bites as it rotates. Bigger bites mean bigger chips and a rough finish. This forcing action can also cause the router motor to overheat.

Under extreme force-feeding conditions, the RPMs can become so slow and the bites become so large that chips become partially cut off, causing splintering and gouging of the workpiece.

The router will make clean, smooth cuts if allowed to run freely without the overload of forced feeding. You can detect forced feeding by the sound of the motor. Its usual high-pitched whine will sound lower and stronger as it loses speed. Holding the router against the workpiece will also be strained and harder to do.

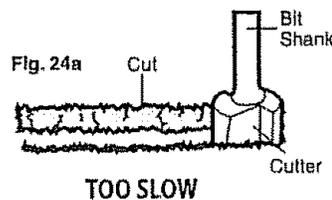


FEEDING TOO SLOW (Fig. 24a)

When you feed the cutter bit too slowly, the rotating cutter bit does not cut into new wood fast enough to take a bite. Instead, it scrapes away sawdust-like particles. This scraping produces heat, which can glaze, burn and mar the cut in the workpiece and, in extreme cases, overheat the cutter bit.

When the cutter bit is scraping instead of cutting, the router is more difficult to control as you feed it.

With almost no load on the motor, the cutter bit has a tendency to bounce off the sides of the cut in the workpiece, producing a cut with a rippled finish instead of clean straight sides.



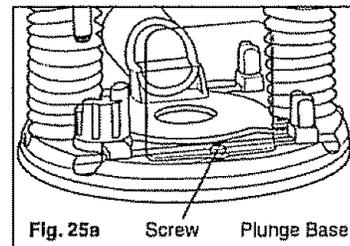
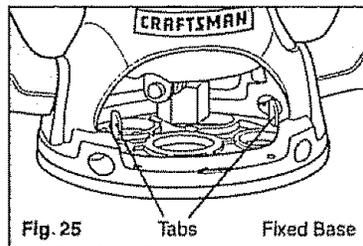
OPERATION cont.

CHIP SHIELD DEFLECTORS (Figs. 25 and 25a)

⚠ WARNING: ALWAYS wear eye protection.
The chip shield deflectors are not intended as a safety guard.

To remove chip shield from fixed base, press inward on tabs until chip shield releases from base and remove it. To attach, place chip shield back in position and flex sides while pushing it in until it snaps back into place (See Fig 25)

The chip shield deflector on the plunge base is held in position by a screw.
To remove the chip shield from the plunge base, simply remove the screw and take the chip shield off of the base (See Fig 25a)



⚠ WARNING: The chip shield deflectors help keep dust and chips away from the operator; they will not stop objects larger than woodchips thrown from the bit.

CAUTION: ALWAYS have the chip shield deflectors in place on the base when operating the router.

⚠ WARNING: ALWAYS turn motor off and unplug router from power source before making any adjustments or installing accessories. Failure to turn motor off and unplug router could result in accidental starting which can cause serious personal injury.

OPERATION cont.

DUST EXTRACTION HOODS (Figs. 26 and 26a)

There are dust extraction hoods included with each router base. Each hood is sized to accept a 1½-in. vac hose adapter, sold separately.

Dust Extraction Hood for Plunge Base (Fig. 26)

To attach the hood onto the plunge base, position and secure it to the back of the base with the two screws (included) as shown in Fig. 26.

The dust extraction hood can also be installed with the hose outlet facing to the front of the plunge base by simply removing the chip shield and attaching the hood at the front of the base.

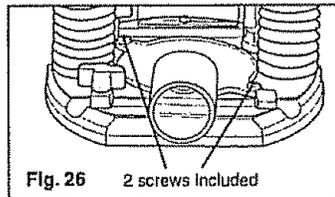


Fig. 26 2 screws included

Dust Extraction Hood for Fixed Base (Fig. 26a)

To attach the hood onto the fixed base, position and secure it to the back of the base with the two screws (included) as shown in Fig. 26a.

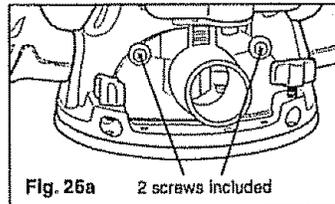


Fig. 26a 2 screws included

⚠ WARNING: ALWAYS turn motor off and unplug router from power source before making any adjustments or installing accessories. Failure to turn motor off and unplug router could result in accidental starting which can cause serious personal injury.

MAINTENANCE

⚠ WARNING: To ensure safety and reliability, all repairs should be performed by a qualified service technician at a Sears Service Center.

GENERAL

Only the parts shown on the parts list are intended for repair or replacement by the customer. All other parts represent an important part of the double insulation system and should be serviced only by a qualified Sears service technician.

MAINTENANCE cont.

⚠ WARNING: For your safety, ALWAYS turn off switch and unplug router motor from the power source before performing any maintenance or cleaning.

It has been found that electric tools are subject to accelerated wear and possible premature failure when they are used to work on fiber glass boats and sports cars, wallboard, spackling compounds or plaster. The chips and grindings from these materials are highly abrasive to electrical tool parts, such as bearings, brushes, commutators, etc. Consequently, it is not recommended that this tool be used for extended work on any fiberglass material, wallboard, spackling compound or plaster. During any use on these materials, it is extremely important that the tool is cleaned frequently by blowing with an air jet.

⚠ WARNING: Always wear safety goggles or safety glasses with side shields during power tool operations, or when blowing dust. If operation is dusty, also wear a dust mask.

ROUTINE MAINTENANCE

⚠ 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.

1. When work has been completed, clean the tool to allow smooth functioning of the tool over time.
2. Use clean damp cloths to wipe the tool.
3. Check the state of all electrical cables.
4. Keep the motor air openings free from oil, grease and sawdust or woodchips, and store tool in a dry place.
5. Be certain that all moving parts are well lubricated, particularly after lengthy exposure to damp and/or dirty conditions.

⚠ WARNING: For your safety, ALWAYS turn off switch and unplug router motor from the power source before performing any maintenance or cleaning.

Refer to Collet/Nut Care and Cutter Bits on page 16 for cleaning care.

MAINTENANCE cont.

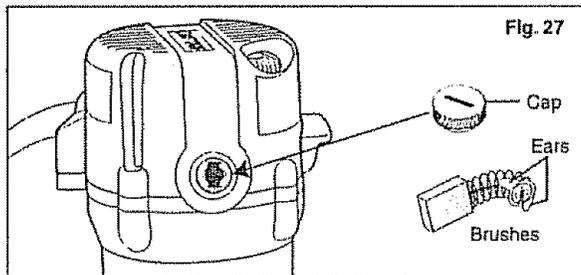
REPLACEMENT OF CARBON BRUSHES (Fig. 27)

Replacement brush sets are available through Sears Parts and Repair Centers

- 1 Unplug the router motor before inspecting or replacing brushes
- 2 Replace both carbon brushes when either has less than 1/4-in. length of carbon remaining, or if the spring or wire is damaged or burned
- 3 Using a slotted screwdriver, remove the black plastic cap on each side of the router motor (Fig. 27) and carefully withdraw the spring-loaded brush assemblies. Keep brushes clean and sliding freely in their guide channels.

NOTE: To reinstall the same brushes, make sure the brushes go back in the same way they came out. This will avoid a break-in period.

- 4 Insert new brush assemblies into guide channels, with the carbon part going in first, being certain to fit the two metal "ears" into their slots in the channel (Fig. 27)
- 5 Remember to replace both end caps after inspecting or servicing brushes. Tighten the caps snugly, but do not over-tighten. The router should be allowed to "RUN IN" (run at no load without a cutter bit) for 5 minutes before use, to seat the new brushes properly



⚠ WARNING: For your safety, ALWAYS turn off switch and unplug router motor from the power source before performing any maintenance or cleaning.

LUBRICATION

All of the bearings in this tool are lubricated with a sufficient amount of high-grade lubricant for the life of the tool under normal operating conditions. Therefore, no further lubrication is required.

ACCESSORIES

⚠ WARNING: The use of attachments or accessories that are not recommended for this tool might be dangerous and could result in serious injury.

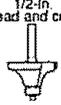
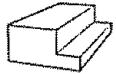
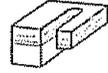
Sears and other Craftsman® outlets offer a large selection of Craftsman router accessories designed for specific routing applications.

There is a large selection of Craftsman Router Cutter Bits available in High-Speed Steel or Carbide Tipped High-Speed Steel for all your routing needs, shown to the right is an example of bits available

 1/8-in. straight  5/16-in. straight  3/8-in. straight  1/2-in. straight  1/4-in. straight  3/4-in. straight	straight	
 3/8-in. dove tail  1/2-in. dove tail	dovetail	
 1/2-in. round nose	round nose	
 1/2-in. BD d v groove	v groove	
 1/2 x 1-in. flush trim  1/2-in. flush trim  3/8 x 1/2-in. flush trim  1/4-in. flush trim	flush trim	
 3/8-in. keyhole	keyhole	
 1/2-in. cove  1/4-in. cove	cove	
 3/8-in. round over  1/8-in. round over  1/4-in. round over  1/2-in. round over	round over	

ACCESSORIES cont.

In addition to a wide variety of router bits, Sears also offers accessories such as:
 Router tables, various template sets, universal router fence with lock knobs (64181),
 11 pc. bushing set (64180) and clear sub-base sets; 6pc. fixed base (64182)
 6 pc. plunge base (64183)

 1/2-in. bead and cove	 1/16-in. classic cove with bead	 bead cove  classic cove & bead
 1/4-in. roman ogee	 Roman ogee	
 3/8-in. rabbeting	 rabbeting	
 1/4-in. veining	 veining	
 1/2-in. core box	 core box	
 1/2-in. mortising	 mortising	
 1/4-in. panel pilot	 panel pilot	
 1 3/8-in. 45° chamfer	 chamfer	

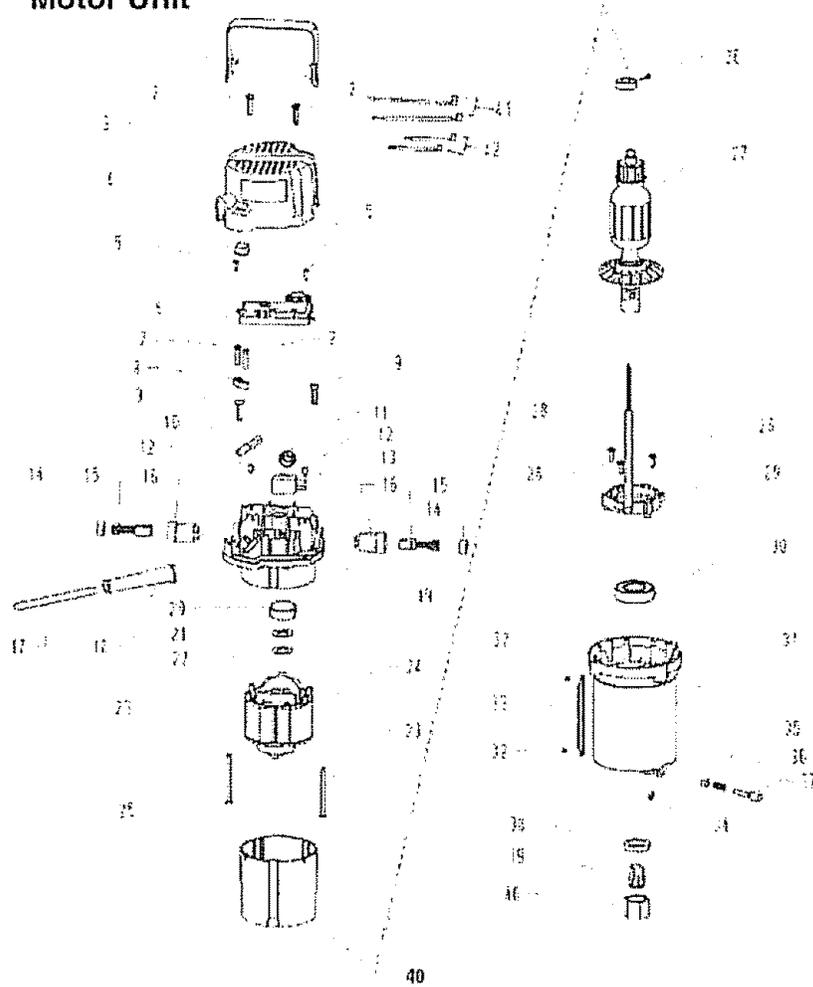
⚠ WARNING: Only use router tables with proper guarding for the cutter bit and with "on-board" switch controlled receptacles. Failure to use router tables with appropriate safety features could result in serious personal injury.

PARTS LIST

11.0 Amp/Variable Speed/ 2 Peak HP – MODEL NUMBER 320.17543

The Model Number will be found on the Nameplate.
Always mention the Model Number in all correspondence regarding your tool

Motor Unit

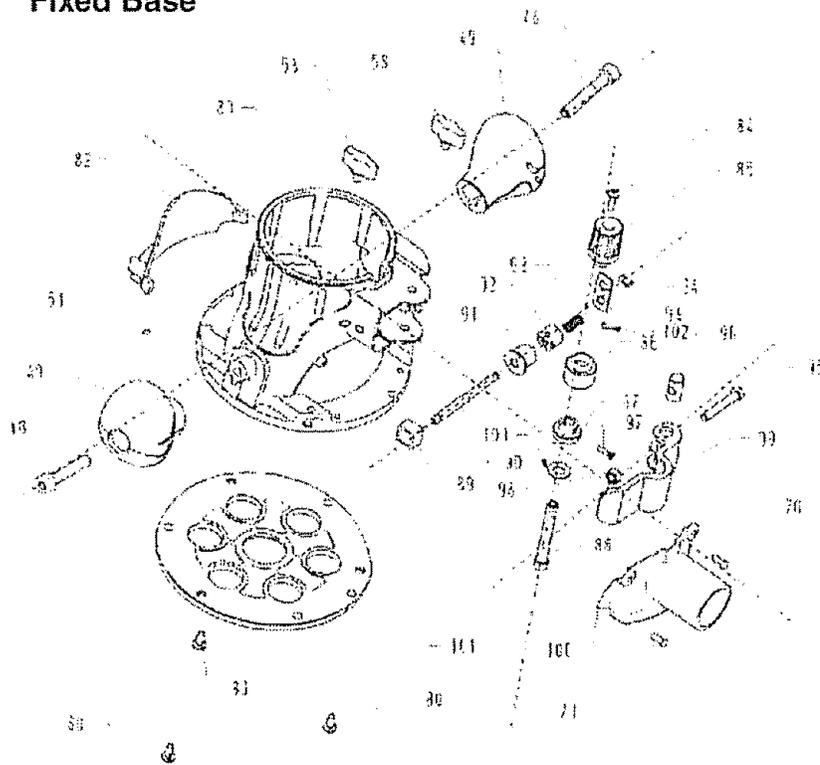


PARTS LIST cont.

**11.0 Amp/Variable Speed/ 2 Peak HP –
MODEL NUMBER 320.17543**

The Model Number will be found on the Nameplate
Always mention the Model Number in all correspondence regarding your tool

Fixed Base

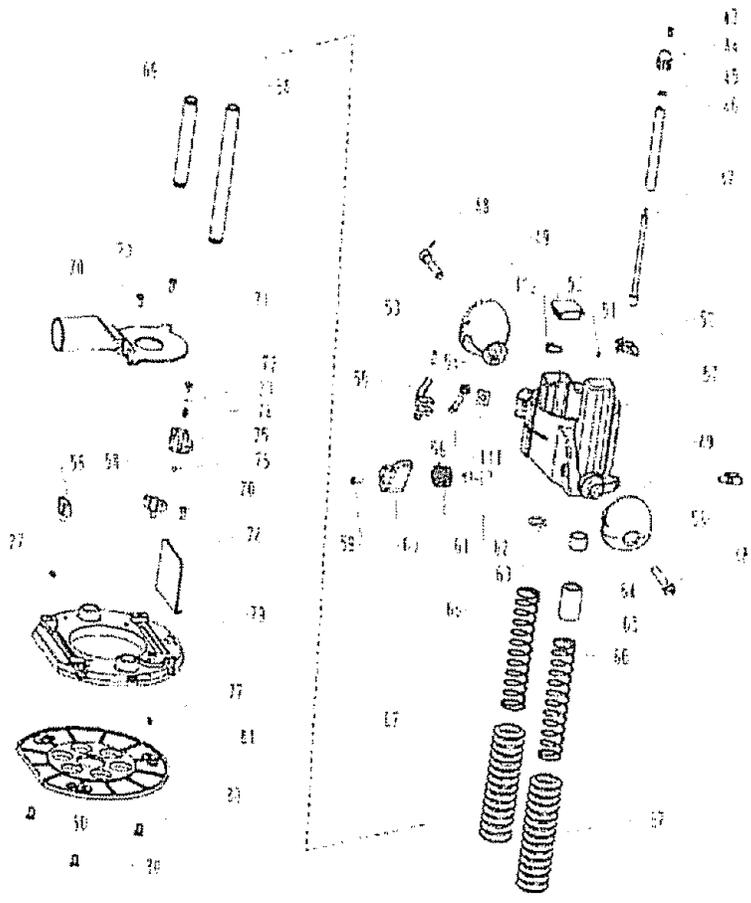


PARTS LIST cont.

**11.0 Amp/Variable Speed/ 2 Peak HP –
MODEL NUMBER 320.17543**

The Model Number will be found on the Nameplate.
Always mention the Model Number in all correspondence regarding your tool

Plunge Base



PARTS LIST cont.**11.0 Amp/Variable Speed/ 2 Peak HP --
MODEL NUMBER 320.17543**

The Model Number will be found on the Nameplate.
Always mention the Model Number in all correspondence regarding your tool

Item No.	Parts No.	Part Description	Qty.
1	3700798000	Decorate Cover	1
2	5610059000	Screw	2
3	3121688000	Rear Cover	1
4	3121518000	Transparent Cap	1
5	5610017000	Screw	2
6	4900046000	PCB Plate	1
7	5610106000	Screw	2
8	3120134000	Cord Anchorage	1
9	5610059000	Screw	2
10	4540017000	Power Indicator Light	1
11	3122851000	Seal Ring	1
12	5620017000	Screw	2
13	4870073000	Switch	1
14	3120537000	Brush Cap	2
15	4960019000	Carbon Brush	2
16	2800005000	Brush Holder	2
17	4810002000	Power Cord	1
18	3121050000	Cord Guard	1
19	3121494000	Middle Housing	1
20	3520130000	Bearing Holder	1
21	3121049000	Gasket	1
22	3700249000	Gasket	1
23	5610048000	Screw	2
24	2740116000	Stator	1
25	3121495000	Fan Baffle	1
26	5700008000	Bearing	1
27	2750729000	Rotor	1
28	5620040000	Screw	3
29	2820887000	LED	1
30	5700056000	Bearing	1
31	3420356000	Housing	1
32	5620062000	Screw	1
33	3520227000	Gear Rack	1
34	5660005000	"E" Ring	2
35	3520131000	Bush	1
36	3660174000	Stop Spring	1
37	3550592000	Spindle Lock	1
38	5630179000	Nut	1
39	3550721000	Collet	1
40	5630187000	Collet Nut	2

PARTS LIST cont.**11.0 Amp/Variable Speed/ 2 Peak HP –
MODEL NUMBER 320.17543**

The Model Number will be found on the Nameplate.
Always mention the Model Number in all correspondence regarding your tool

Item No.	Parts No.	Part Description	Qty.
41	2822039000	Internal Wire	2
42	2822038000	Internal Wire	2
43	5620032000	Screw	1
44	3120200000	Depth Adjusting Cap	1
45	5690002000	"O" Ring	1
46	3550084000	Depth Stop Bar	1
47	3550083000	Adjusting Pole	1
48	5620024000	Screw	4
49	3121635000	Handle	4
50	3121639000	Cover	1
51	5670040000	Located Pin	2
52	3121634000	Depth Indicator	1
53	5670039000	Pin	1
54	5630015000	Lock Nut	1
55	3420390000	Clamping Lever	1
56	3550577000	Mitre Lock Bolt	1
57	3420388000	Plunge Frame	1
58	3400189000	Lock Bolt	5
59	5620039000	Screw	1
60	3420398000	Plunge Lock Lever	1
61	3660254000	Torsion Spring	1
62	5640045000	Bolt	1
63	5690120000	"O" Ring	1
64	5700055000	Oil Impreging Bearing	1
65	3520138000	Bush	1
66	3660166000	Spring	2
67	3121632000	Bellows Seal	2
68	3550576000	Long Plunge Rod	1
69	3550575000	Plunge Rod	1
70	5620040000	Screw	5
71	3121599000	Vaccum Adapter	1
72	5620103000	Screw	1
73	5650007000	Gasket	1
74	3660030000	Spring	1
75	3420387000	Turn Table	1
76	GB/T308-2002	Steel Ball	1
77	5620093000	Screw	2
78	3121583000	Chip Shield	1
79	3420370000	Mouling	1
80	5620049000	Screw	6

PARTS LIST cont.**11.0 Amp/Variable Speed/ 2 Peak HP –
MODEL NUMBER 320.17543**

The Model Number will be found on the Nameplate.
Always mention the Model Number in all correspondence regarding your tool.

Item No.	Parts No.	Part Description	Qty.
82	3121637000	Chip Shield	1
83	3420396000	Mounting	1
84	5620041000	Screw	1
85	3121646000	Adjusting Knob	1
86	3121647000	Indicator Ring	1
87	3550615000	Worm	1
88	3550613000	Shaft	1
89	3121648000	Button	1
90	3550579000	Gear Shaft	1
91	3520141000	Gear	1
92	3520147000	Lock Gear	1
93	3660167000	Spring	1
94	3700848000	Plate	1
95	5620332000	Screw	1
96	3550596000	Lock Pin	1
97	5620065000	Screw	1
98	5630015000	Lock Nut	1
99	3420395000	Clamping Lever	1
100	3122784000	Vacuum Adapter	1
101	3122924000	Mounting Plate	1
102	3121539000	Rubber Pole	1
103	5650172000	Plate	1
104	5620051000	Screw	2
105	5650013000	Plate	2
106	5650015000	Plate	2
107	3703591000	Parallel Guide	1
108	3550683000	Guiding Rod	2
109	3700807000	Wrench	1
110	3550595000	Collet	1
111	3703602000	Square Plate	1
112	5690002000	"O" Ring	1

NOTES

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