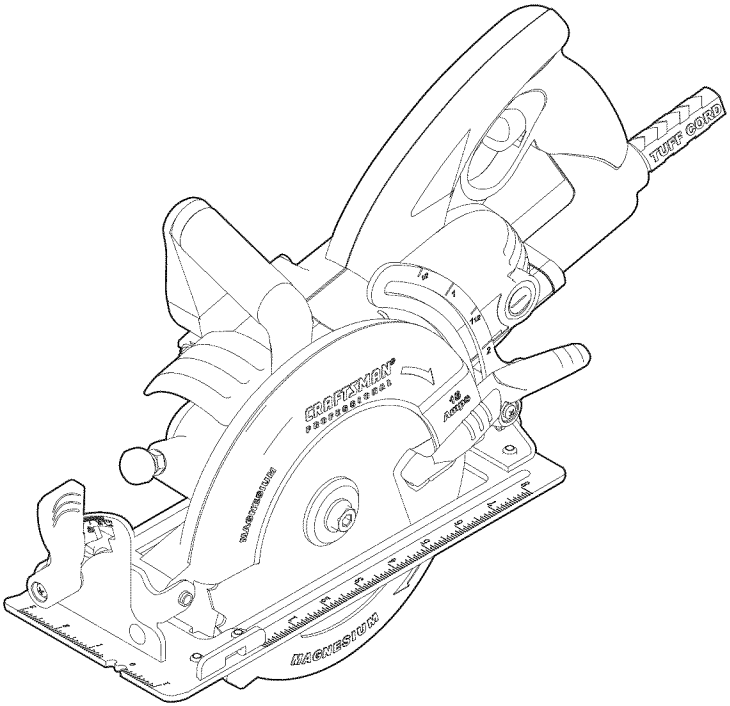
Product Manual

CRAFTSMAN®

PROFESSIONAL

7-1/4-in. 15 Amp Hypoid Circular Saw

Model No. 320. 28195



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

- Warranty
- Safety
- Operation
- Maintenance
- Troubleshooting

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

www.craftsman.com

PART# 2340053001

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ONE YEAR FULL WARRANTY ON CRAFTSMAN PROFESSIONAL® PRODUCT

If this Craftsman tool fails to give complete satisfaction 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.

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

⚠ **WARNING:** Some dust created by using power tools contains chemicals known to the state of California to cause cancer and birth defects or other reproductive harm.

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 this saw. Failure to follow all instructions listed below may result in electric shock, fire, and/or serious personal injury.

SYMBOL MEANINGS

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

⚠ **DANGER:** 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.

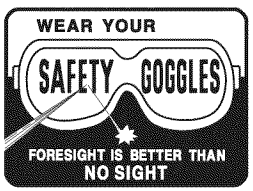
⚠ **WARNING:** Failure to obey this safety warning **CAN** result in death or serious injury to yourself or to others. Always follow the safety precautions to reduce the risk of fire, electric shock, and personal injury.

⚠ **CAUTION:** 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 the 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 saw 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.

Some of these following symbols may be used on this tool. Please study them and learn their meaning. Proper interpretation of these symbols will allow you to operate the tool better and more safely.

SYMBOL	NAME	DESIGNATION / EXPLANATION
V	Volts	Voltage
A	Amperes	Current
Hz	Hertz	Frequency (cycles per second)
W	Watt	Power
min	Minutes	Time
~	Alternating Current	Type of current
⎓	Direct Current	Type or a characteristic of current
n_0	No Load Speed	Rotational speed, at no load
⧈	Class II Construction	Double-insulated construction
.../min	Per Minute	Revolutions, strokes, surface speed, orbits, etc., per minute
	Wet Conditions Alert	Do not expose to rain or use in damp locations.
	Read the Product Manual	To reduce the risk of injury, user must read and understand product manual before using this product.
	Eye Protection	Always wear safety goggles or safety glasses with side shields and a full-face shield when operating this product.
⚠	Safety Alert	Precautions that involve your safety.
	No Hands Symbol	Failure to keep your hands away from the blade will result in serious personal injury.
	No Hands Symbol	Failure to keep your hands away from the blade will result in serious personal injury.
	No Hands Symbol	Failure to keep your hands away from the blade will result in serious personal injury.
	No Hands Symbol	Failure to keep your hands away from the blade will result in serious personal injury.
	Hot Surface	To reduce the risk of injury or damage, avoid contact with any hot surface.

SAFETY INSTRUCTIONS

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

WORK AREA SAFETY

- **Keep your work area clean and well lit.** Cluttered workbenches and dark areas invite accidents.
- **Do not operate power tools in explosive environments,** such as in the presence of flammable liquids, gases, or dust. Power tools create sparks which may ignite the dust or fumes.
- **Keep bystanders, children and visitors away** while operating a power tool. Distractions can cause you to lose control.
- **Make your workshop childproof** with padlocks and master switches. Lock tools away when not in use.
- **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 saw.

PERSONAL SAFETY

- **Know your power tool.** Read this operator's manual carefully. Learn the tool's applications and limitations, as well as the specific, potential hazards related to this tool.
- **Stay alert**, watch what you are doing, and use common sense when operating a power tool.
- **Do not** use this 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.
- **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.
- **Avoid accidental starting.** Be sure the switch is in "**Off**" position before plugging the tool into a power source. 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.
- **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.
- **Do not overreach. Keep proper footing and balance** at all times. Proper footing and balance enables better control of the tool in unexpected situations.

- **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.
- **Use safety equipment. Always** wear eye protection. A dust mask, non-skid safety shoes, hardhat, and hearing protection must be used for appropriate conditions.
- **Do not use a ladder or unstable support.** Stable footing on a solid surface enables better control of the tool in unexpected situations.

TOOL USE AND CARE

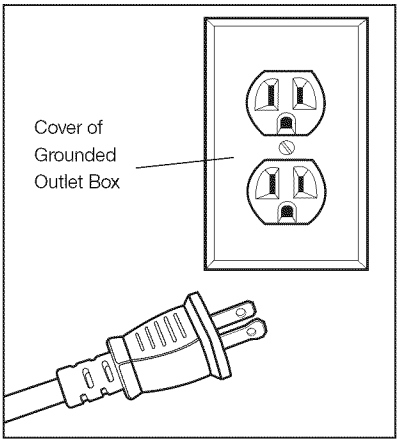
- **Always use clamps** or other practical ways to secure and support the workpiece to a stable platform. Holding the work by hand or against your body is unstable and may lead to loss of control.
- **Do not force the tool**. Use the correct tool and blade for your application. The correct tool and blade will do the job better and more safely at the rate for which they are designed.
- **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.
- **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.
- **Never leave the tool running.** Always turn it off. **Do not** leave the tool until it comes to a complete stop.
- **Store idle tools out of the reach of children** and other untrained persons. Tools are dangerous in the hands of untrained users.
- **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.
- **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.
- **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 the plug when inserting or removing the plug from the outlet.

- **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.

- 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 saw is a double insulated tool.



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

- **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.
- **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.
- **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.
- **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 tool.
- **Do not abuse the cord.** Never use the cord to carry the tool or to pull the plug from the outlet. Keep the 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 one with a larger number (14-gauge wire has more capacity than 16-gauge wire; 12-gauge wire has more capacity than 14-gauge wire). 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.

Minumum Gauge for Extension Cords				
Volts	Total Length of Cord in Feet			
120V	25ft.	50ft.	100ft.	150ft.
Ampere Rating	AWG	AWG	AWG	AWG
More than 0 Not more than 6	16	16	16	14
More than 6 Not more than 10	16	16	14	12
More than 10 Not more than 12	16	16	14	12
More than 12 Not more than 16	14	12	Not Recommended	

⚠ **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 the tool with a damaged cord; 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

n_o .....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.

SERVICE SAFETY

- **If any part of this saw 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, remove the saw plug from the power source, and have the missing, damaged or failed parts replaced before resuming operation.
- **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.
- **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 HYPOID CIRCULAR SAWS

⚠ **DANGER:** Keep hands away from cutting area and blade. Keep your second hand on the auxiliary handle or motor housing. If both hands are holding the saw, the blade cannot cut them.

- **Do not position your body in direct line with the saw blade;** position your body to either side of the saw blade. Kickback could cause the saw to jump backwards. (See "Kickback--What Causes It and Ways to Help Prevent It" in the Operation section of this manual.)
- **DO NOT reach underneath the work.** The guard cannot protect you from the portion of the blade that is beneath the workpiece.

⚠ **DANGER:** When sawing through a workpiece, the lower blade guard does not cover the blade on the underside of the workpiece. Always keep your hands and fingers away from the cutting area.

- **Check the lower guard for proper closing before each use.** Do not operate the saw if the lower guard does not move freely and close instantly. Never clamp or tie the lower guard in the open position. If the saw is accidentally dropped, the lower guard may be bent. Raise the lower guard with the retracting lever; the guard is operating properly when it moves freely, does not touch the blade or any other part in all angles and depths of cut, and readily returns to the closed position.
- **Check the operation and condition of the lower guard spring.** If the guard and the spring are not operating properly, they must be serviced before use. The lower guard may operate sluggishly due to damaged parts, gummy deposits, or a buildup of debris. Do not operate your saw until the damaged part has been repaired or replaced.
- **The lower guard should be retracted manually only for making special cuts,** such as pocket or compound cuts. Always raise the lower guard by retracting its lever. As soon as the blade enters the material, the lower guard must be released. For all other sawing, the lower guard should be allowed to operate automatically.
- **Always** make sure that the lower guard is covering the blade before placing the saw on a workbench or floor. Make note of the time it takes for the blade to stop spinning after the switch is released. An unprotected moving blade will cause the saw to travel backwards, cutting whatever is in its path.
- **Never hold the piece being** cut in your hands or across your legs. It is important to support the workpiece properly in order to minimize body exposure, blade binding, or loss of control.
- **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.
- **Always clamp the workpiece** securely so it will not move when making the cut.
- **Always use a rip fence or straight edge guide** when performing rip cuts. This improves the accuracy of the cut and reduces the chance of the blade binding.
- **Always** use blades that have the correct size and shape (diamond vs. round) arbor holes. Blades that do not match the mounting hardware of the saw will run erratically and cause loss of control.
- **Never** use damaged or incorrect blade washers or bolts. The blade washers and bolts were specially designed for your saw for optimum performance and safety of operation.
- **Never** cut more than one piece at a time. Do not stack more than one workpiece on the worktable at a time.

- **Avoid awkward operations** and hand positions where a sudden slip could cause your hand to move into the blade.
- **Never reach into the cutting path** of the blade.

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

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

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

- **Know your power tool.** Read this product 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.
- **Always wear safety glasses or eye shields** when using this tool. Everyday eyeglasses may have impact-resistant lenses; they are **not** safety glasses.
- **Protect your lungs.** Wear a facemask or dust mask if the operation is dusty.
- **Protect your hearing.** Wear appropriate personal hearing protection during use. Under some conditions, noise from this product may contribute to hearing loss.
- **All visitors and bystanders** must wear the same safety equipment that the operator of the tool should wear.
- **Inspect the tool cords** periodically and, if damaged, have them repaired at your nearest Sears Service Center. Be aware of the cord location.

- **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.
- **Inspect lumber** and remove all nails from lumber before sawing.
- **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.

GLOSSARY OF WOODWORKING TERMS

Arbor: The shaft on which the cutting tool is mounted. Also called the Spindle.

Bevel Cut: A cutting operation made with the blade at any angle other than 90° to the plane of the workpiece.

Chamfer Cut: A cut removing a wedge from a block of wood so that the end (or portion of the end) is angled other than 90°.

Compound Miter Cut: A cut with both a bevel angle and a miter angle.

Cross Cut: A cutting or shaping operation made against the grain of the workpiece.

Dado Cut: A non-through cut that produces a square-sided notch or trough in the workpiece (requires a special blade).

Gum: A sticky, sap-based residue from hardwoods.

Hypoid Gear: Specially machined gearing for efficient power transfer.

Kerf: The material removed by the blade in a through cut, or the slot produced by the blade in a non-through cut or partial cut.

Kickback: A hazard that can occur when the blade binds or stalls, throwing the cutting tool back towards the operator.

Miter Cut: A cutting operation made with the blade at any angle other than 90° to the fence.

Non-Through Cuts: Any cutting operation where the blade does not extend completely through the thickness of the workpiece, such as a dado cut.

Resin: A sticky, sap-based substance that has hardened.

Revolutions per Minute (RPM): The number of turns completed by a spinning object in one minute.

Ripping or Rip Cut: A cutting operation along the length of the workpiece.

Saw-Blade Path: The area over, under, behind, or in front of the blade, as it applies to the workpiece, or the area that will be or has been cut by the blade.

Set: The distance that the saw-blade tooth is bent (or set) outward from the face of the blade.

Spindle: The shaft on which the cutting tool is mounted. Also called the Arbor.

Through Sawing: Any cutting operation where the blade extends completely through the thickness of the workpiece.

UNPACKING

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

⚠ **WARNING:** Do not attempt to modify this saw or create accessories not recommended for use with this saw. Any such alteration or modification is misuse and could result in a hazardous condition leading to possibly serious injury.

⚠ **WARNING:** To prevent accidental starting that could cause serious personal injury, always disconnect the tool from the power source when assembling parts.

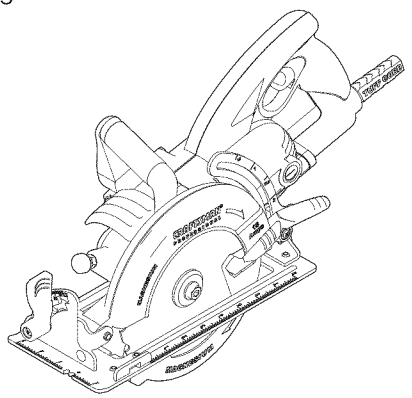
UNPACKING

This product has been shipped completely assembled, except cutting blade.

1. Carefully remove the tool and the accessories from the box. Make sure that all items listed in the packing list are included.
2. Inspect the tool carefully to make sure that no breakage or damage occurred during shipping.
3. Do not discard the packing material until you have carefully inspected and satisfactorily operated the tool.
4. If any parts are damaged or missing, return the product for replacement.

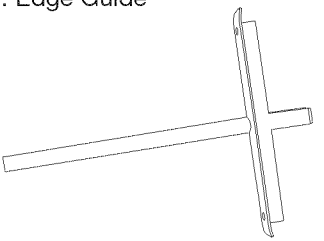
PARTS LIST (Fig. 1)

Fig. 1



1. 7-1/4-in Hypoid Circular Saw with Saw Blade

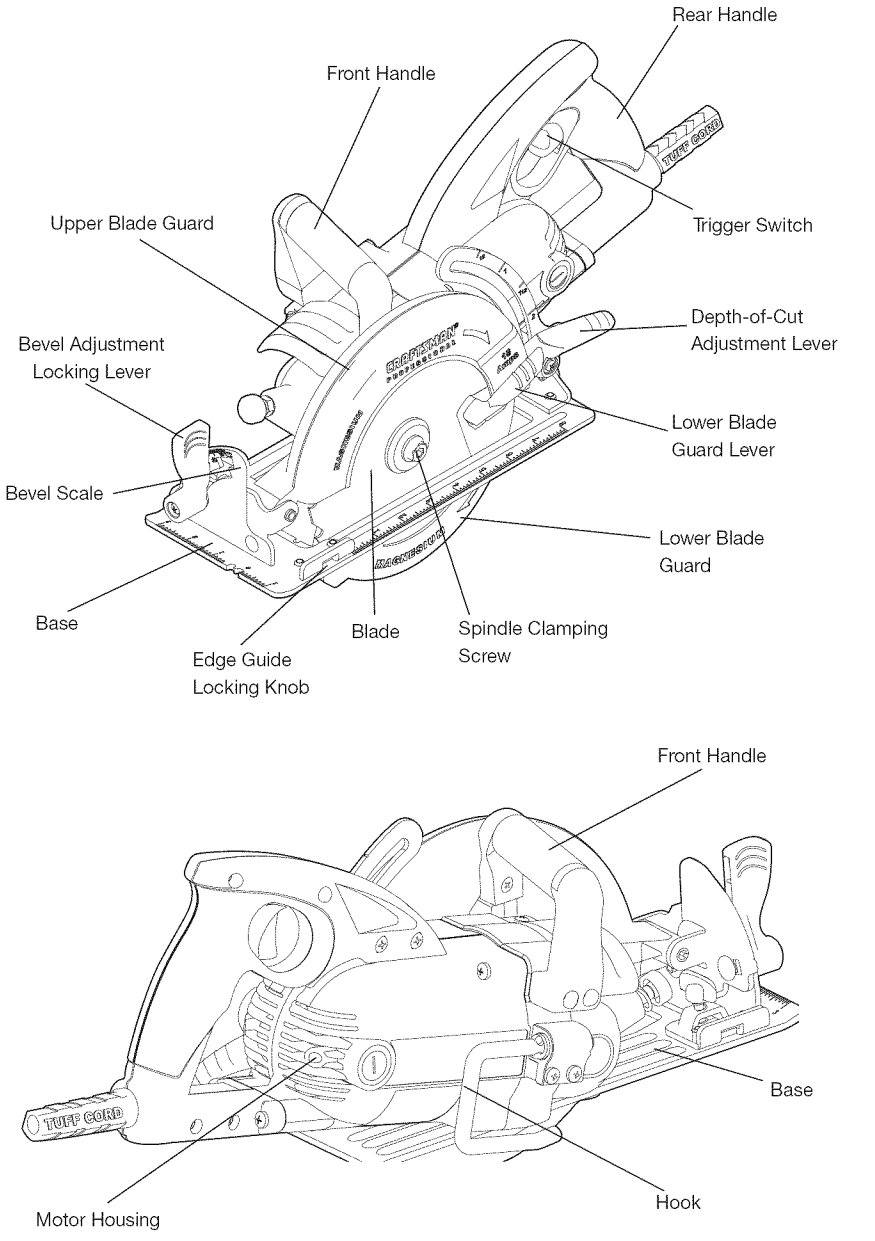
2. Edge Guide



3. Blade Wrench

KNOW YOUR HYPOID CIRCULAR SAW (Fig. 2)

Fig. 2



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

Your hypoid circular saw has a precision-built electric motor and it should only 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 saw does not operate when plugged into correct 120-volt, 60-Hz AC ONLY outlet, check the power supply. The saw has a 10-ft, 2-wire power cord (no adapter needed).

This Hypoid Circular Saw has the following features:

- 15 Amp, 4400 RPM (no-load speed) motor provides power and torque for fast, sure cuts in wood, plywood, hardboard, and wood-base materials.
- Quick depth-of-cut adjustments with maximum depth of cut: 2-3/8-in. thick at 90°; 1-13/16-in. thick at 45°
- Easy-to-read bevel-cut scale adjusts from 0° to 51° bevel capacity.
- Heavy duty, lightweight, magnesium upper and lower blade guards for extra strength and durability.
- Extended-length trigger switch for maximum control and comfort.
- Punched Aluminum base provides stability for maximum control during sawing applications.
- Rear handle and front assist handle for positive gripping, control, balance, and comfort.
- Includes Freud 24-tooth, carbide-tipped steel, blade for fast, smooth cuts.
- Front-mounted spindle lock for easy blade changes.
- Built-in sawdust-ejection chute helps direct dust and chips away from the operator.
- Permanently lubricated ball bearings throughout for smooth operation and long motor life.
- Durable, machined hypoid gearing for efficient power transmission.

PRODUCT SPECIFICATIONS	
Input	15 Amps
Rating	120V, 60Hz AC
No-load Speed	4400RPM
Blade Diameter	7-1/4 in. (184mm)
Cutting Depth at 90°	2-3/8 in. (59.5mm)
Cutting Depth at 45°	1-13/16 in. (42.5mm)
Maximum Bevel Angle	51°

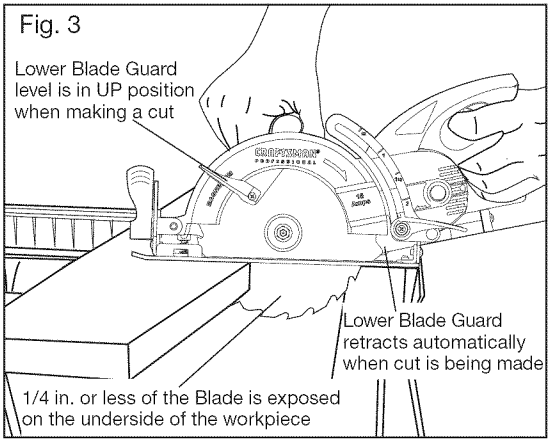
⚠ WARNING: The maximum blade capacity of your saw is 7-1/4 inches. Any blade larger than 7-1/4 inch will come in contact with the blade guards. Never use a blade that is so thick that it prevents the outer blade washer from engaging with the flat side of the spindle. Blades that are too large or too thick can result in an accident causing serious injury.

SAW BLADES

All saw blades need to be kept clean, sharp, and properly set in order to cut efficiently. Using a dull blade places a heavy load on the saw and increases the danger of kickback. Keep extra blades on hand, so sharp blades are always available. Gum and wood pitch that have hardened on the blade will slow the saw. Use gum and pitch remover, hot water, or kerosene to remove these substances. **Do not** use gasoline.

BLADE GUARD SYSTEM (Fig. 3)

The lower blade guard is there for your protection and safety. It should never be altered for any reason. If the lower blade guard becomes damaged or begins to return slowly or sluggishly, do not operate your saw until the damaged part has been repaired or replaced. Always leave the guard in its correct operating position when using the saw.



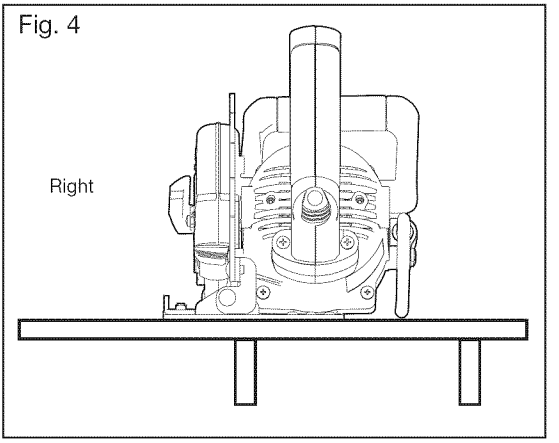
⚠ DANGER: When sawing through a workpiece, the lower blade guard does not cover the blade on the underside of the workpiece. Keep hands and fingers away from the cutting area. If any part of your body comes in contact with the moving blade, serious injury will result.

⚠ CAUTION: Never use the saw when the lower blade guard is not operating properly. The lower blade guard should be checked for correct operation before each use. If you drop your saw, check the lower blade guard and bumper for damage at all depth settings before using.

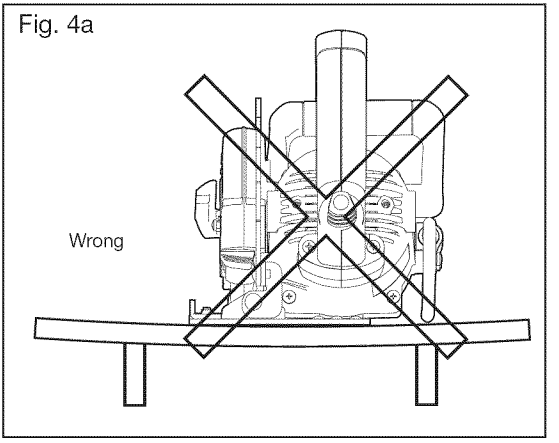
NOTE: The lower blade guard is operating properly when it moves freely and then readily returns to the closed position. If, for any reason, your lower blade guard and bumper do not close freely, take the saw to your nearest Craftsman Repair Center for service before using it.

KICKBACK...WHAT CAUSES IT AND WAYS TO HELP PREVENT IT

Kickback Causes



- Kickback is a sudden reaction to a pinched, bound, or misaligned saw blade, which can cause the saw to lift up and out of the workpiece and toward the operator.
- When the blade is pinched or bound tightly by the kerf closing down, the blade stalls and the motor reaction drives the unit rapidly back towards the operator.
- If the blade becomes twisted or misaligned in the cut, the teeth at the rear edge of the blade can dig into the top surface of the wood. This causes the blade to climb out of the kerf and jump back towards the operator.
- Sawing into knots or nails in the workpiece can cause kickback.
- Sawing into wet or warped lumber can cause kickback (Fig. 4a).



- Forcing a cut, or not supporting the workpiece correctly can cause kickback (Fig. 4a).
- Kickback can result from tool misuse and/or incorrect operating procedures or conditions.

Ways to Help Prevent Kickback

⚠ **DANGER:** Always release the trigger switch immediately if the blade binds or the saw stalls. Kickback could cause you to lose control of the saw. Loss of control can lead to serious injury.

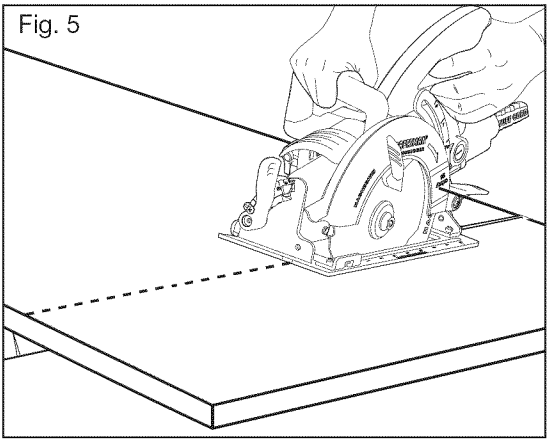
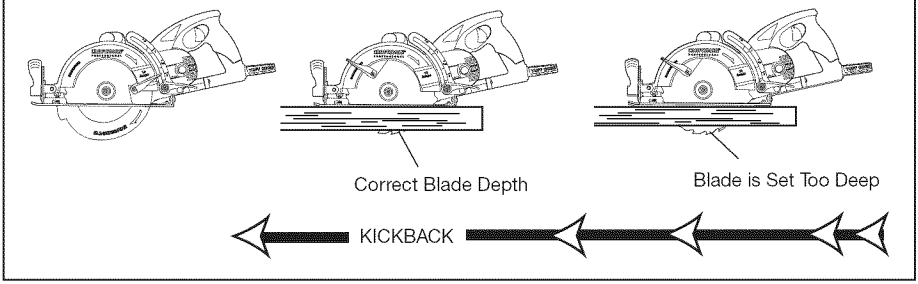


Fig. 5

1. **Always** maintain a firm grip with both hands on the saw (Fig. 5) and position your body and arms to allow you to resist kickback forces. The operator can control kickback forces if the proper precautions are taken.
2. If the blade is binding or when you are interrupting a cut for any reason, **always** release the trigger and hold the saw motionless in the material until the blade comes to a complete stop. **Never** attempt to remove the saw from the workpiece or pull the saw backward while the blade is in motion, or kickback may occur. Check and take corrective action to eliminate the cause of blade binding.
3. **Inspect** the workpiece for knots or nails before cutting. Never saw into a knot or nail.
4. **Do not** cut warped or wet lumber (Fig. 4a).
5. **Always** support large panels to minimize the risk of blade pinching and kickback. Large panels tend to sag under their own weight (Fig. 4a). Supports must be placed under the panel: one near the line of cut and one near the edge of the panel (Fig. 4).
6. **When restarting** the saw in the workpiece, center the blade in the kerf and check to be sure that the saw teeth are not engaged into the material. If the saw blade is binding, it may walk up or kick back from the workpiece when the saw is restarted.
7. **Do not** use a dull or damaged blade. Unsharpened, improperly set, or gummed-up blades produce narrow kerfs, which cause excessive friction, blade binding, and Kickback.

8. **Keep the blade at the correct depth setting.** The depth setting should not exceed 1/4 inch below the material being cut (Fig. 6). **Be sure** that the blade depth and adjusting locking levers are tight and secure before making a cut. If blade adjustment shifts while cutting, it may cause binding and Kickback.

Fig. 6



9. **Use extra caution** when making a "Pocket Cut" into existing walls or other blind areas. The protruding blade may cut objects that can cause Kickback.

STARTING/STOPPING THE SAW

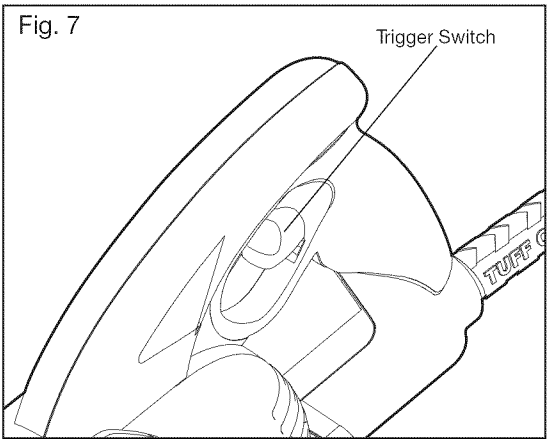
To start the saw: Depress the trigger switch (Fig. 7).

Always allow the blade to reach full speed, and then guide the saw into the workpiece.

To stop the saw: Release the trigger switch.

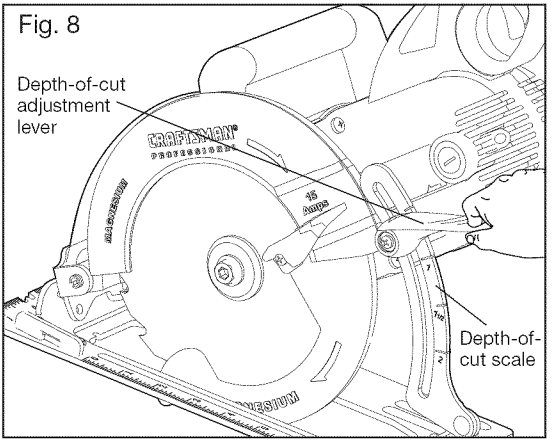
After you release the trigger switch, allow the blade to come to a complete stop. Do not remove the saw from the workpiece while the blade is moving.

Fig. 7



MAKING DEPTH-OF-CUT ADJUSTMENTS

Always use the correct blade-depth setting. The correct blade-depth setting for all cuts should not be more than 1/4-inch deeper than the material being cut. Increased cutting depth will increase the chance of kickback and cause the cut to be rough. Your saw is equipped with a depth-of-cut scale that provides increased depth-of-cut accuracy. The depth-of-cut scale is located on the right side of the bracket (Fig 8).



TO SET THE BLADE DEPTH

⚠ **WARNING:** Always unplug the saw before making any adjustments. Failure to unplug the saw could result in accidental starting, which can cause serious personal injury.

1. Unplug the saw.
2. Raise the depth-of-cut adjustment lever to loosen the base (Fig. 8).
3. Determine the desired depth of cut (see page 19).
4. Locate the depth-of-cut scale on the right side of the bracket (Fig. 8).
5. Hold the base of the saw flat against the edge of the workpiece, and then raise or lower the saw until the indicator aligns with the desired depth-of-cut mark.
6. Tighten the depth-of-cut adjustment lever.

STARTING A CUT

⚠ **WARNING**: Always securely clamp and support the workpiece. Always maintain proper control of the saw. Failure to clamp and support the workpiece and loss of control of the saw could result in serious injury.

⚠ **WARNING:** Always maintain proper control of the saw to make sawing safer and easier. Loss of control of the saw could cause an accident resulting in possibly serious injury

1. Always use your saw with your hands positioned correctly: with one hand operating the trigger switch and the other on the front assist handle (Fig. 9). Never use the saw with your hands positioned as shown in Fig. 10.

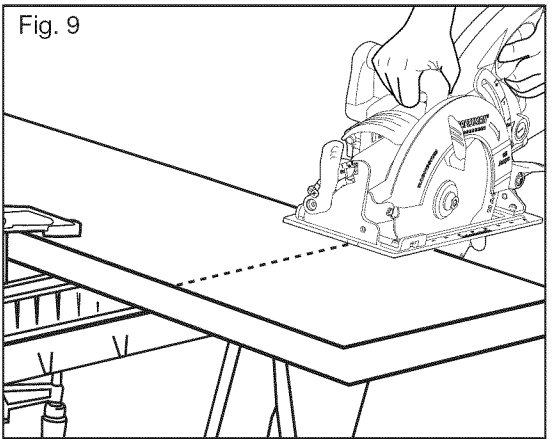


Fig. 9

To Help Maintain Control:

Always support the workpiece near the cut.

Always support the workpiece so the cut will be on your right.

Always clamp the workpiece so it will not move during the cut. Place the workpiece with the good side down.

NOTE: The good side of the workpiece is the side where appearance is important.

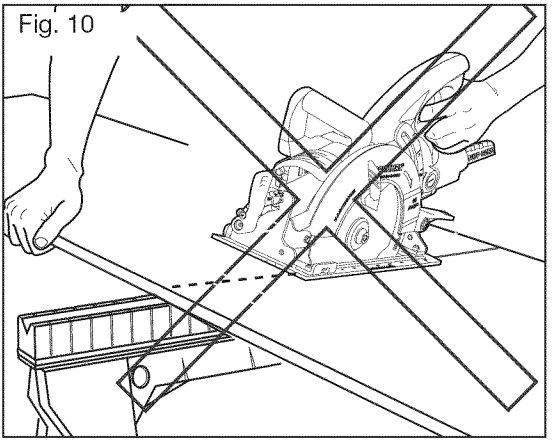


Fig. 10

2. Before starting a cut, draw a guideline along the desired line of cut, then place the front edge of the saw base on that part of the workpiece that is solidly supported (Fig. 9).

Never place the saw on the part of the workpiece that will fall off when the cut is made.

Always keep the cord away from the cutting area. **Always** place the cord so that it does not hang up on the workpiece when making a cut.

3. **Hold the saw firmly** with both hands (Fig. 9).

⚠ **WARNING:** If the cord hangs up on the workpiece during a cut, release the trigger switch immediately. To avoid injury, unplug the saw and move the cord to prevent it from hanging up again.

⚠ **DANGER:** Using the saw with a damaged cord could result in serious injury or death. If the cord has been damaged, have it replaced before using the saw again.

4. Depress the trigger switch to start the saw.
5. **Always** let the blade reach full speed before you begin the cut into the workpiece.
6. When making a cut, **always** use steady, even pressure. Forcing the saw causes rough cuts and could shorten the life of the saw or cause Kickback.

7. After completing your cut, release the trigger switch and allow the blade to come to a complete stop. **Do not** remove the saw from the workpiece while the blade is moving.

⚠ **DANGER:** When sawing through a workpiece, the lower blade guard does not cover the blade on the underside of the workpiece (Fig. 3). Always keep your hands and fingers away from the cutting area. Any part of your body coming in contact with the moving blade will result in serious injury.

MAKING CROSS CUTS AND RIP CUTS

⚠ **WARNING:** Always securely clamp and support the workpiece. Always maintain proper control of the saw. Failure to clamp and support the workpiece and loss of control of the saw could result in serious injury.

⚠ **WARNING:** Always maintain proper control of the saw to make sawing safer and easier. Loss of control of the saw could cause an accident resulting in possibly serious injury.

1. Always use your saw with your hands positioned correctly (Fig. 11).
2. When making cross or rip cuts, align your line of cut with the left side of the notch by the 0° indicator. (Fig. 11a).
3. Since the thicknesses of blades vary, **make a trial cut** in scrap material along the guideline to determine how much, if any, you should offset the blade from the guideline to allow for the kerf of the blade and make an accurate cut.

Fig. 11

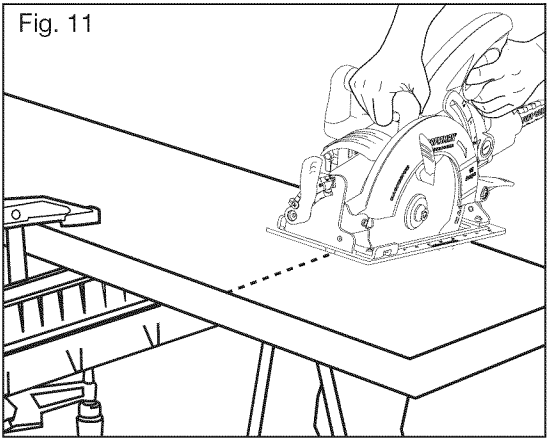
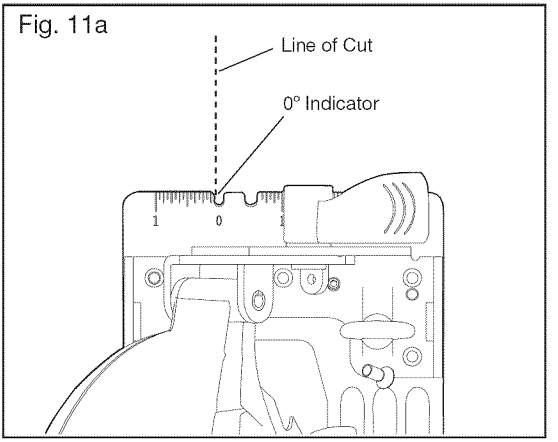


Fig. 11a



INTEGRATED CROSSCUT RULER

A ruler for measuring cross cuts is marked along the front of the saw base.

MAKING RIP CUTS

Always use a guide when making long or wide rip cuts with your saw. You can use either a straight edge or use the edge guide that was included with your saw.

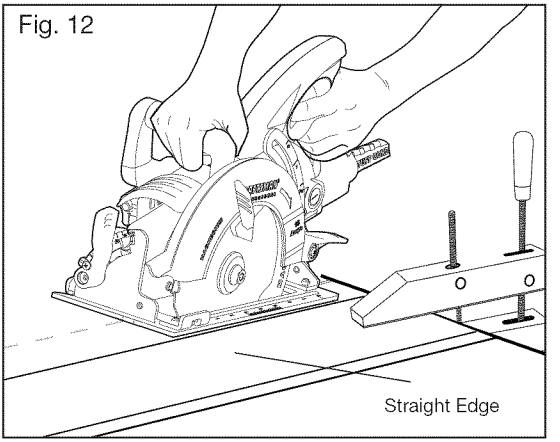
USING A STRAIGHT EDGE

⚠ WARNING: Always securely clamp and support the workpiece. Always maintain proper control of the saw. Failure to clamp and support the workpiece, combined with loss of control of the saw, could result in serious injury.

You can make an efficient rip guide by clamping a straight edge to your workpiece.

1. Always allow the blade to reach full speed, and then carefully guide the saw into the workpiece. Do not bind the blade in the cut.
2. Carefully guide the saw along the straight edge for a straight rip cut (Fig. 12).
3. Push the saw forward slowly enough that the blade is not laboring.

Fig. 12



EDGE GUIDE

The saw comes with an edge guide. It allows you to make accurate parallel cuts. The edge guide attaches to the saw base and is secured in place with a turn screw.

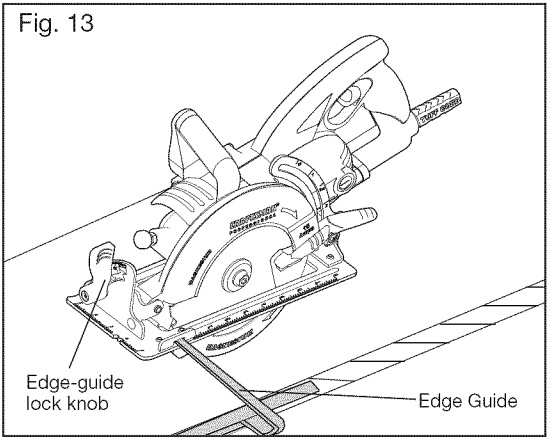
USING THE EDGE GUIDE

Always use a guide when making long or wide rip cuts with your saw. You can use either a straight edge or use the edge guide that was included with the saw.

⚠ WARNING: Always unplug the saw before making any adjustments. Failure to unplug the saw could result in accidental starting, which can cause serious personal injury.

1. Unplug the saw from the power source.
2. Position the edge guide so that the ruler side of the arm is facing up. Slide the arm of the edge guide through the mounting slots at the front of the saw base (Fig 13).
3. Adjust the edge guide to the desired width of cut.
4. Tighten the edge-guide lock knob.

Fig. 13



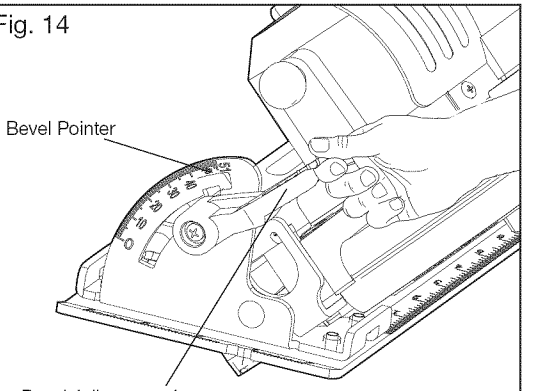
When using the edge guide, position the face of the edge guide firmly against the edge of the workpiece. This will help to make a true cut without binding the blade. The edge of the workpiece must be straight for the cut to be straight. Use caution to prevent the blade from binding in the cut.

SETTING THE BEVEL ANGLE

⚠ **WARNING:** Always unplug the saw before making any adjustments. Failure to unplug the saw could result in accidental starting, which can cause serious personal injury.

1. Unplug the saw.
2. Loosen bevel adjustment lever (Fig.14).
3. Raise the motor-housing end of the saw until the desired angle setting is indicated on the bevel scale.
4. Tighten the bevel adjustment lever securely.

Fig. 14



MAKING BEVEL CUTS

⚠ WARNING: Always securely clamp and support the workpiece. Always maintain proper control of the saw. Failure to clamp and support the workpiece and loss of control of saw could result in serious injury.

1. Your saw can be adjusted to bevel cut at any angle between 0° and 51°. When making 45° bevel cuts, there is a notch in the saw base to help you line up the blade with the line of cut (Fig. 15).
2. Align your line of cut with the left side of the notch by the 45° indicator when making 45° bevel cuts.
3. Since blade thicknesses vary and different angles require different settings, **make a trial cut** in scrap material along the guideline to determine how much, if any, you should offset the blade from the guideline to allow for the kerf of the blade.
4. When making a bevel cut, hold the saw firmly with both hands (Fig. 15a).
5. Rest the front edge of the saw's base on the workpiece, and then depress the trigger switch to start the saw. Always allow the blade to reach full speed, then guide the saw into the workpiece.
6. After completing your cut, release the trigger switch and allow the blade to come to a complete stop in the cut. Do not remove the saw from the workpiece while the blade is moving. It will damage your bevel cut and cause kickback.

Fig. 15

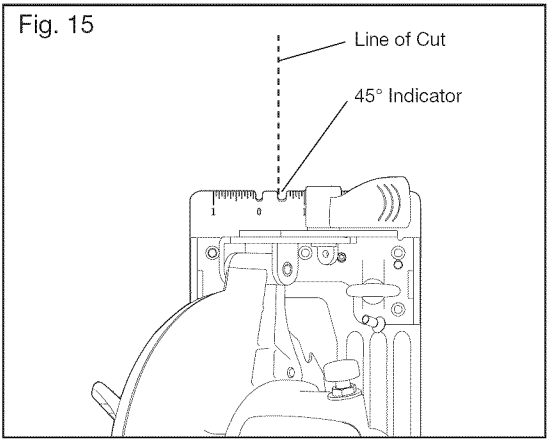
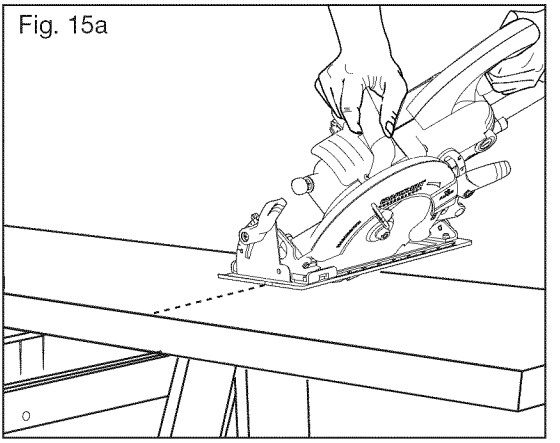


Fig. 15a



⚠ WARNING: If the blade comes in contact with the workpiece before it reaches full speed, it could cause the saw to kickback towards you, possibly resulting in serious injury.

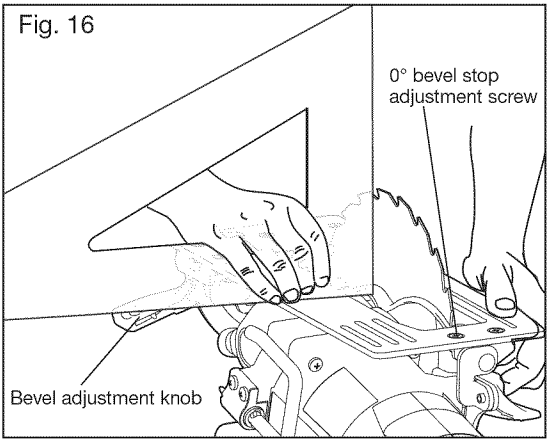
0° BEVEL STOP

The saw has a 0° bevel stop that has been factory adjusted to assure a 0° angle of the saw blade when making 90°cuts.

TO CHECK 0° BEVEL STOP

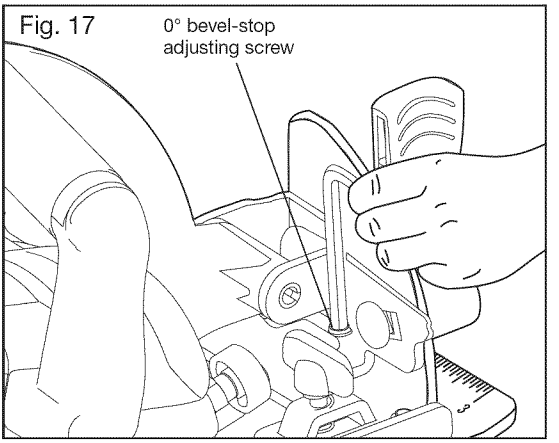
⚠ WARNING: Always unplug the saw before making any adjustments. Failure to unplug the saw could result in accidental starting, which can cause serious personal injury.

1. Unplug the saw from the power source.
2. Place the saw in an upside-down position on a workbench.
3. Using a carpenter's square, check that the saw blade is square to the base of the saw (Fig 16).



TO ADJUST 0° BEVEL STOP (Fig. 17)

1. Unplug the saw from the power source.
2. Loosen the bevel-adjustment knob.
3. Locate the 0° bevel-stop adjusting screw
4. Using a hex key, turn the 0° bevel-stop adjusting screw until it is square with the saw blade.



MAKING POCKET CUTS

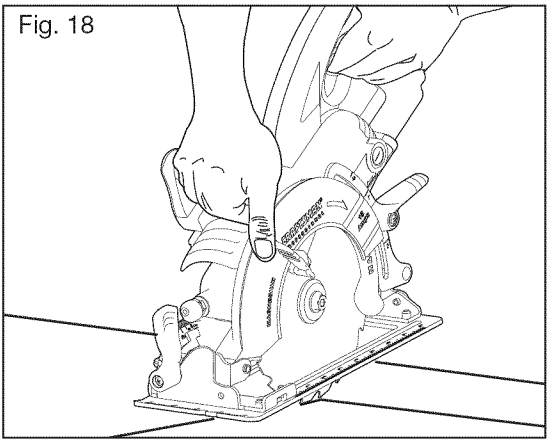
⚠ WARNING: Always adjust the bevel setting to zero before making a pocket cut. Attempting a pocket-cut at any other setting can result in a loss of control of the saw, which can result in serious injury.

1. Adjust the bevel setting to zero, set the blade to the correct blade depth setting, then use the lower blade guard lever to swing the guard up.

⚠ WARNING: Always use the lever to raise the lower blade guard to avoid serious injury.

2. While holding the lower blade guard up by the lever, firmly rest the front of the saw base flat against the workpiece with the rear handle raised, so that the blade does not touch the workpiece (Fig. 18).
3. Depress the trigger switch to start the saw. Always allow the blade to reach full speed, and then slowly lower the blade onto the workpiece until the base is flat against the workpiece.

Fig. 18



4. You **must** release the lower blade guard lever as the blade enters the material.
5. After you complete the cut, release the trigger switch and allow the blade to come to a complete stop. After the blade has stopped, remove it from the workpiece.
6. If the corners of your pocket cut are not completely cut through, use a hand finishing saw to finish the corners.

⚠ **WARNING:** Never tie the lower blade guard in the raised position. Leaving the blade exposed could result in serious injury.

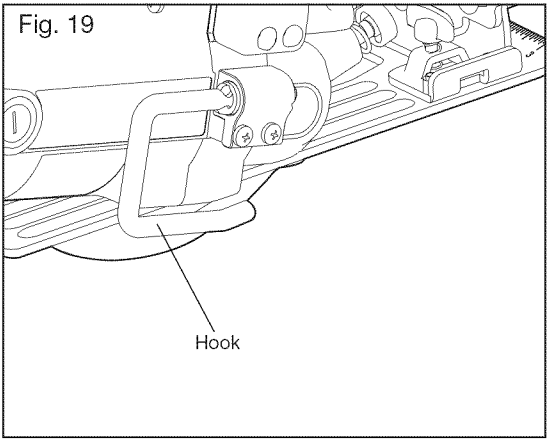
HOOK (Fig. 19)

⚠ **CAUTION:** Always unplug the saw before hanging the saw with the hook.

⚠ **CAUTION:** Never hook the saw in a high location or on a potentially unstable surface.

The hook is convenient for temporarily hanging the saw. To use the hook, simply lift up the hook until it snaps into the open position. When not in use, always lower the hook until it snaps into the closed position.

Fig. 19



MAINTENANCE

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

⚠ WARNING: For your safety, always turn off the switch and unplug the hypoid circular saw 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 fiberglass 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 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.

Periodic maintenance allows for long life and trouble-free operation. A cleaning, lubrication and maintenance schedule should be maintained. As a common preventive maintenance practice, follow these recommended steps:

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

REPLACEMENT OF CARBON BRUSHES

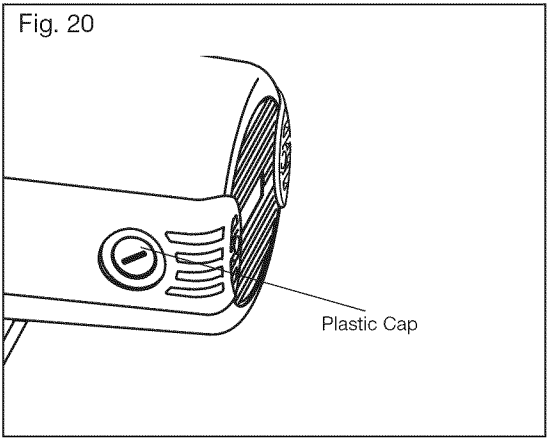
⚠ WARNING: For your safety, always turn off the switch and unplug the saw from the power source before performing any maintenance or cleaning.

Replacement brush sets are available through Craftsman Parts and Repair Centers.

1. Unplug the saw 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 motor (Fig. 20), and carefully withdraw the spring-loaded brush assemblies. Keep brushes clean and sliding freely in their guide channels.

Fig. 20



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

4. Insert new brush assemblies into the guide channels with the carbon part going in first, being certain to fit the two metal "ears" into their slots in the channel (Fig. 20).
5. Remember to replace both end caps after inspecting or servicing brushes. Tighten the caps snugly, but do not over-tighten. Before use, the saw should be allowed to "RUN IN" (run at no load without a blade) for 5 minutes to seat the new brushes properly.

CHANGING THE BLADE

WARNING: Be sure to wear protective work gloves while handling a saw blade. The blade can injure unprotected hands.

1. Unplug the saw from the power source.

WARNING: To prevent personal injury, ALWAYS disconnect the plug from power source BEFORE assembling parts, making adjustments or changing blades.

2. Place the saw, on its side, on a flat surface.
3. Loosen the depth-of-cut adjustment lever, raise the saw up all the way, and tighten the lever. This gives you easier access to the blade mounting area.
4. Place the saw upright on its base on a flat surface.
5. To loosen the spindle-clamping screw "A," Fig. 21, depress the spindle-lock button (Fig. 21a). Insert the blade wrench in the spindle clamping screw "A." Move the wrench in and out slightly until you feel the spindle lock button depress further, which locks the blade in position so the spindle clamping screw can be removed.
6. Keeping the spindle lock button firmly depressed, turn the wrench clockwise to remove the spindle-clamping screw.

Fig. 21

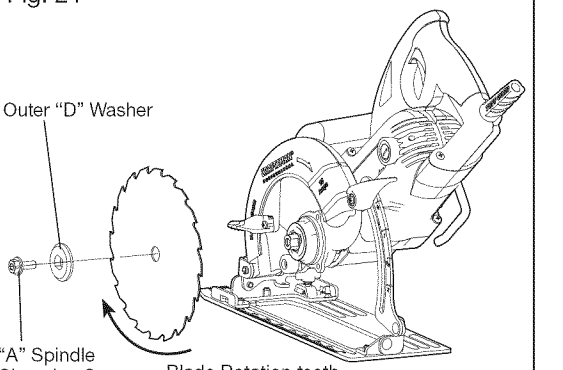
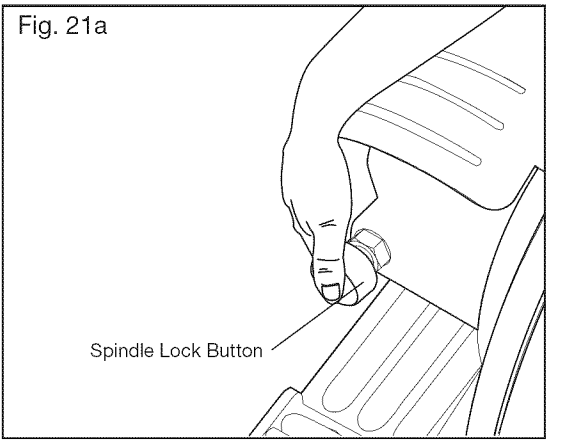


Fig. 21a



7. Use the blade-guard lever to raise the lower blade guard and hold it in the raised position for the next steps.
8. Completely remove the spindle-clamping screw "A," the outer "D" washer, and the blade (see Fig. 21).
9. The remaining washer is the inner bushing washer that fits around the spindle shaft; it does not need to be removed.
10. Put a drop of oil onto the inner bushing washer and outer "D" washer where they will touch the blade.

11. Place the new saw blade inside the lower blade guard, onto the spindle shaft, and against the inner bushing.

NOTE: The teeth of the blade should point upward at the front of the saw. The printed side will face outward when using the blade included with the saw.

12. Replace the "D" washer.

13. Firmly hold down the spindle lock button as you replace the spindle screw and hand tighten it in a counterclockwise direction. Then use the blade wrench to securely tighten the spindle clamping screw.

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.

TROUBLESHOOTING

If the blade does not follow a straight line:

- Teeth are dull. This is caused by hitting a hard object such as a nail, and dulling the teeth on one side. The blade tends to cut to the side with the sharpest teeth.
- Base is out of line or bent.
- Blade is bent.
- Edge guide or straight edge is not being used.

If the blade binds or smokes from friction:

- Blade is dull.
- Blade is on backwards.
- Blade is bent.
- Workpiece is not properly supported.
- Incorrect blade is being used.

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 7-1/4-inch Craftsman steel carbide-tipped blades designed for specific cutting applications. Contractor bulk packs are also available.

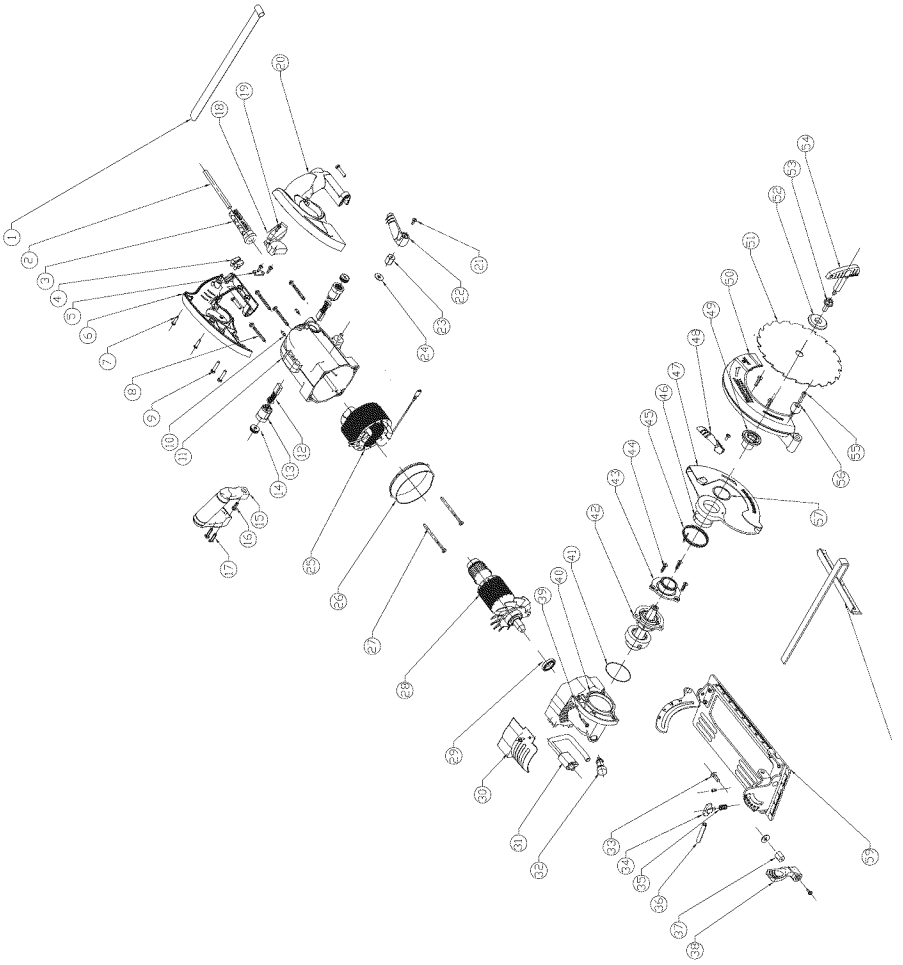
Sears and other Craftsman outlets also offer sawhorses, combination and framing squares, straight edges, edge guides, and a large assortment of clamps to help you with all your sawing needs.

Visit your local Sears store or other Craftsman outlets or shop sears.com/craftsman.

7-1/4-in. HYPOID CIRCULAR SAW – MODEL NUMBER 320. 28195

The Model Number will be found on the Nameplate.

Always mention the Model Number in all correspondence regarding your tool.



PARTS LIST

7-1/4-in.HYPOID CIRCULAR SAW – MODEL NUMBER 320. 28195

The Model Number will be found on the Nameplate.

Always mention the Model Number in all correspondence regarding your tool.

No.	Part No.	Part Name	Quantity
1	2490136000	Nylon String	1
2	4810002000	Power Cord & Plug	1
3	3123555000	Cord Guard	1
4	4930003000	Connect	1
5	3700367000	Cord Anchorage	1
6	3320505000	Right Handle ASSY	1
7	5610042000	Tapping Screw	5
8	5610062000	Thread Forming Screw	4
9	5610060000	Thread Forming Screw	4
10	5620017000	Hexagon Socket Screw	3
11	3123495000	Motor Housing	1
12	4960031000	Carbon Brush	4
13	2800033000	Brush Holder	2
14	3121165000	Brush Cap	2
15	3320519000	Front Handle	1
16	5610057000	Thread Forming Screw	3
17	5610059000	Thread Forming Screw	5
18	4870032000	Switch	1
19	5610093000	Thread Formong Screw	3
20	3320504000	Left Handle ASSY	1
21	5620039000	Screw	4
22	3123566000	Depth Adjusting Lever	1
23	5630217000	Square Nut	1
24	5650017000	Plain Washer	2
25	2740246000	Stator	1
26	3123762000	Fan Baffle	1
27	5610235000	Tapping Screw	2
28	2822409000	Rotor Set	1
29	5690146000	Seal Ring	1

No.	Part No.	Part Name	Quantity
30	3123542000	Cover	1
31	2822407000	Hook Set	1
32	2822408000	Spindle Lock Set	1
33	5640151000	Bolt	1
34	3400011000	Wing Bolt	1
35	3660071000	Spring	1
36	5670001000	Spring Pin	1
37	3550375000	Square Nut	1
38	3121380000	Bevel Lever	1
39	5620042000	Screw	2
40	3420597000	Gear Case	1
41	5690148000	“O”Ring	1
42	2822406000	Shaft Set	1
43	3520318000	Bearing Cover	1
44	5610088000	Thread Forming Screw	3
45	3660321000	Torsion Spring	1
46	3704088000	Bushing	3
47	3420599000	Lower Guard	1
48	3123554000	Moving Guard Lever	1
49	3520317000	Inner Flange	1
50	3420598000	Upper Guard	1
51	3810039000	Blade	1
52	3550944000	Clamp	1
53	5620375000	Flange Screw	1
54	3402230000	Key	1
55	5620334000	Hexagon Socket Screw	1
56	3121051000	Stopper	1
57	3704087000	Circlips For Shaft	1
58	3700574000	Rip Fence	1
59	2822410000	Base Plate Set	1

NOTES

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