

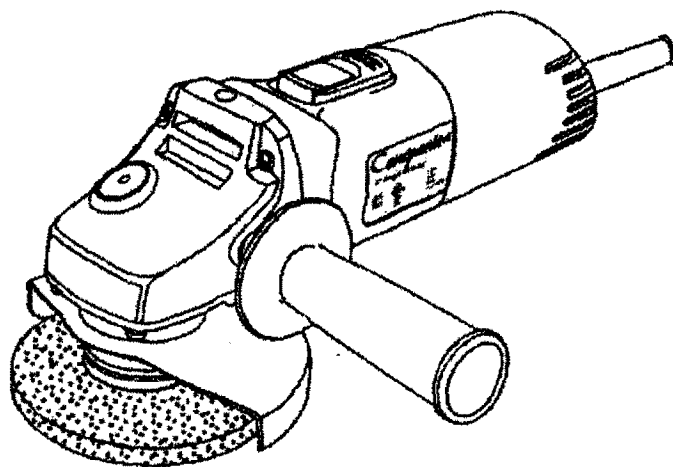
B52405CP1A

Operator's Manual

Companion
A GENUINE SEARS PRODUCT

4-in. Angle Grinder

Model No.
320.11510



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

- SAFETY
- OPERATION
- MAINTENANCE
- ESPAÑOL

Sears, Roebuck and Co., Hoffman Estates, IL 60179 U.S.A.

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WARRANTY

ONE FULL YEAR WARRANTY ON COMPANION TOOL

If this Companion tool fails due to a defect in material or workmanship within one year from the date of purchase, RETURN IT TO THE NEAREST SEARS STORE IN THE UNITED STATES, and Sears will replace it, free of charge.

This warranty is void if this tool is used for commercial or rental purposes.

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

Sears, Roebuck and Co., Dept. 817WA, Hoffman Estates, IL 60179

INTRODUCTION

READ ALL INSTRUCTIONS THOROUGHLY

To operate this tool, read this operating manual and all the labels affixed to the circular saw carefully before using. Keep this manual available for future reference.

IMPORTANT

This tool should only be serviced by a qualified service technician.

GENERAL SAFETY RULES

Keep your work area clean and well lit. Cluttered benches and dark areas invite accidents.

Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust. Power tools create sparks which may ignite the dust or fumes.

Keep bystanders, children and visitors away while operating a power tool. Distractions can cause you to lose control.

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 for your application. The correct tool will do the job better and safer at the rate for which it is designed.

GENERAL SAFETY RULES cont.

Do not use 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.

Store idle tools out of 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 effect 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 by the manufacturer for your model. Accessories that may be suitable for one tool, may become hazardous when used on another tool.

Do not alter or misuse tool. These tools are precision built. Any alteration or modification not specified is misuse and may result in a dangerous condition.

⚠ CAUTION: Do not attempt to operate this tool until you have thoroughly read all instructions, safety rules and warnings. Failure to comply can result in fire, electric shock, or serious personal injury. Save the Owner's Manual and review frequently for reference.

⚠ WARNING: When using power tools, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and personal injury.

Stay alert, watch what you are doing and use common sense when operating a power tool. 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.

Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts. Loose clothes, jewelry, or long hair can be caught in moving parts.

Avoid accidental starting. Be sure switch is off before plugging in. Carrying tools with your finger on the switch or plugging in tools that have the switch on invites accidents.

Do not overreach. Keep proper footing and balance at all times. Proper footing and balance enables better control of the tool in unexpected situations.

Use safety equipment. Always wear eye protection. Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.

Before connecting the tool to a power source (receptacle, outlet, etc.), be sure voltage supplied is the same as that specified on the nameplate of the tool. A power source with voltage greater than that specified for the tool can result in serious injury to the user, as well as damage to the tool.

GENERAL SAFETY RULES cont.

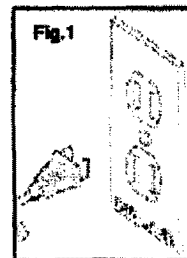
⚠ WARNING: The operation of any tool can result in foreign objects being propelled into your eyes, resulting in severe eye damage. When operating power tool, always wear safety goggles or safety glasses with side shields and a full face shield when needed.

⚠ WARNING: Remove adjusting keys or switches before turning the tool on. A wrench or a key that is left attached to a rotating part of the tool may result in personal injury.

⚠ WARNING: If any parts are missing, do not operate the tool until the missing parts have been replaced. Doing so could result in serious personal injury.

ELECTRICAL SAFETY

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 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 a three wire grounded power cord and grounded power supply system. (See Fig. 1)



Avoid contact with grounded surfaces such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is grounded.

Don't expose power tools to rain or wet conditions. A wet power tool will increase the risk of electric shock.

Do not abuse the cord. Never use the cord to carry the tool, or pull the plug from an outlet. Keep cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately. Damaged cords increase the risk of electric shock. When operating a power tool outside, use an outdoor extension cord marked "W-A" or "W". These cords are rated for outdoor use and reduce the risk of electric shock.

Replace damaged cords immediately. Use of damaged cords can shock, burn or electrocute.

If an extension cord is necessary, a cord with adequate size conductors should be used to prevent excessive voltage drop, loss of power or overheating. Always use UL and CSA listed extension cords.

SPECIFIC SAFETY RULES

⚠ WARNING: Keep hands away from cutting area and blade. Keep your second hand on auxiliary handle, or motor housing. If both hands are holding the saw, they can't be cut by the blade.

Keep your body positioned to either side of the saw blade, but not in line with the saw blade. KICKBACK could cause the saw to jump backwards.

Do not reach underneath the work piece. The guard can not protect you from the blade below the work piece.

Check lower guard for proper closing before each use. Do not operate saw if lower guard does not move freely and close instantly. Never clamp or tie the lower guard into the open position. If saw is accidentally dropped, lower guard may be bent. Raise the lower guard with the retracting handle and make sure it moves freely and does not touch the blade or any other part, in all angles and depths of cut.

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. Lower guard may operate sluggishly due to damaged parts, gummy deposits, or a buildup of debris.

Lower guard should be retracted manually only for special cuts such as "pocket cuts" and "compound cuts". Raise lower guard by retracting handle. As soon as blade enters the material, lower guard must be released. For all other sawing, the lower guard should operate automatically.

Always observe that the lower guard is covering the blade before placing saw down on bench or floor. An unprotected, coasting blade will cause the saw to walk backward, cutting whatever is in its path. Be aware of the time it takes for the blade to stop after switch is released.

NEVER hold piece being cut in your hands or across your leg. It is important to support the work piece properly to minimize body exposure, blade binding, or loss of control.

Hold tool by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring or its own cord. Contact with a "live" wire will also make exposed metal parts of the tool "live" and shock the operator.

Always use blades with correct size and shape (diamond vs. round) arbor holes. Blades that do not match the mounting hardware of the saw will run eccentrically causing loss of control.

Never use damaged or incorrect blade washers or bolts. The blade washers and bolt were specially designed for your saw, for optimum performance and safety of operation.

Maintain a firm grip with both hands on the saw and position your body and arm to allow you to resist KICKBACK forces. KICKBACK forces can be controlled by the operator, if proper precautions are taken.

When blade is binding, or when interrupting a cut for any reason, 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 work or pull the saw backward while the blade is in motion or KICKBACK may occur. Investigate and take corrective actions to eliminate the cause of blade binding.

SPECIFIC SAFETY RULES cont.

When restarting a saw in the work piece, center the saw blade in the kerf and check that saw teeth are not engaged into the material. If saw blade is binding, it may walk up or KICKBACK from the work piece as the saw is restarted.

Support large panels to minimize the risk of blade pinching and KICKBACK. Large panels tend to sag under their own weight. Supports must be placed under the panel on both sides near the line of cut and near the edge of the panel.

Do not use dull or damaged blade. Unsharpened or improperly set blades produce narrow kerfs causing excessive friction, blade binding and KICKBACK.

Blade depth and bevel adjusting locking levers must be tight and secure before making cut. If blade adjustment shifts while cutting, it may cause binding and KICKBACK.

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.

Do not use blades made of high-alloy, high-speed steel (HSS).

Do not use the circular saw near fumes or combustible liquids.




Secure small pieces of wood firmly before working. Never hold them in your hand.

Never slow the blade down with your hands or by applying pressure to the side of the blade.

Never apply force! Move the circular saw forward gently and steadily.

SYMBOLS

Important: Some of the following symbols may be used on your tool. Please study them and learn their meaning. Proper interpretation of these symbols will allow you to operate the tool better and safer.

SYMBOL	NAME	DESIGNATION/EXPLANATION
V	Volts	Voltage
A	Amperes	Current
Hz	Hertz	Frequency (cycles per second)
min	Minutes	Time
-	Alternating Current	Type or a characteristic of current
n_0	No Load Speed	Rotational speed, at no load
/min	Revolutions or Reciprocation Per Minute	Revolutions, strokes, surface speed, orbits etc, per minute
	Safety Alert Symbol	Indicates danger, warning or caution. It means attention!!!
	Protection	Always wear safety gear
	Wet Condition Alert	Do not expose to rain or use in damp locations.

FEATURES

KNOW YOUR CIRCULAR SAW (See Fig. 2)

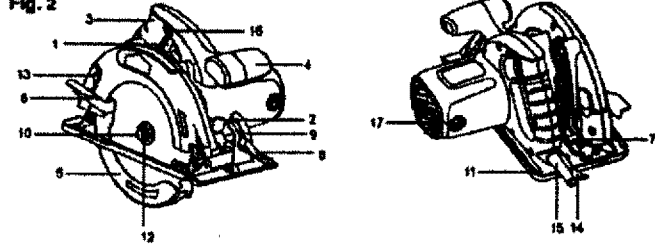
Before attempting to use this circular saw, familiarize yourself with all its operating features and safety requirements.

This circular saw is strictly a hand-operated tool and designed for straight cuts. The saw blade that comes with the tool is suitable for making cuts in wood and wooden materials according to the specifications in this instruction manual.

When equipped with suitable blades, the tool can also be used to cut: plastics, thermo-plastics, laminated plastics, high-resistance foam, plaster board, rock wool boards, cement particle board, and nonferrous metals. All other applications are expressly ruled out.

⚠ WARNING: Do not allow familiarity with your circular saw to make you careless. Remember that a careless fraction of a second is sufficient enough to inflict severe injury.

Fig. 2



- | | |
|------------------------|-------------------------|
| 1. Lock-off switch | 10. Hexagon blade screw |
| 2. Spindle lock button | 11. Base plate |
| 3. Main handle | 12. Outer flange |
| 4. Front handle | 13. Dust outlet |
| 5. Lower blade guard | 14. Blade wrench |
| 6. Blade guard lever | 15. Cord guard |
| 7. Depth locking lever | 16. Lock-off button |
| 8. Angle locking knob | 17. Carbon brush cap |
| 9. 0°-45° bevel gauge | |

SPECIFICATIONS

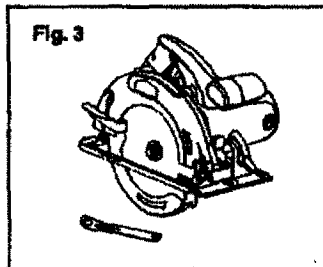
Power supply	120V-60 Hz
AMPS	10
No load speed.....	6000/min
Saw blade size.....	7 1/4"
Cutting angle.....	0°-45°
Depth of cut at 90°.....	2 1/2" (63mm)

OPERATION

ASSEMBLY AND ADJUSTMENTS

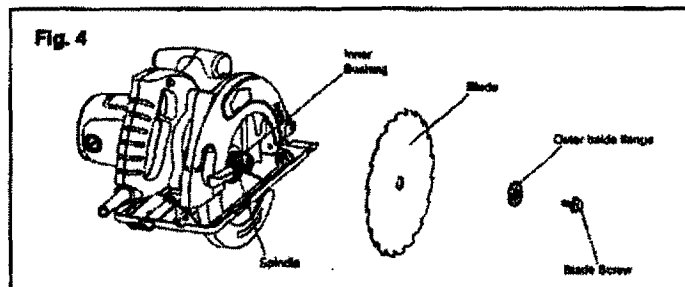
⚠ WARNING: Remove the circular saw from the carton and examine it carefully. Do not discard carton or any packaging material until all parts are examined.

⚠ WARNING: If any part of the saw is missing or damaged, do not plug the circular saw in until the damaged part is repaired or replaced.



⚠ WARNING: To avoid injury, ALWAYS turn the switch OFF and disconnect the circular saw from the power outlet before installing or changing the saw blade.

INSTALLING THE SAW BLADE (FIG. 4)



1. Rotate the saw blade by hand and depress the spindle lock button until the blade locks.
2. Unscrew the hexagon blade screw using the wrench provided.
3. Remove the outer blade flange and the hexagon blade screw.

OPERATION cont.

INSTALLING THE SAW BLADE cont.

4. Remove the saw blade from the spindle, the inner bushing remained on spindle.
5. Clean the flange thoroughly before mounting the new saw blade.
6. Mount the new saw blade and tighten the hexagon blade screw. Check to be sure the blade runs freely by turning the blade by hand.

Note: The direction in which the blade rotates has to be the same as the direction of the arrow marked on the guard.

7. Be sure that the spindle lock button is released.
8. Make sure the saw is in good working order before using it again.

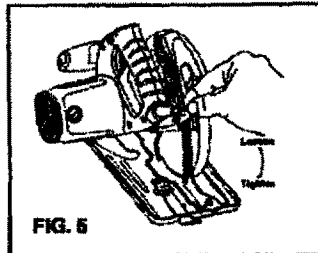
TRIGGER SWITCH WITH "LOCK-OFF" BUTTON

The tool can only be activated when both trigger and lock-off button are depressed together. The main switch can also be locked in the "OFF" position to help prevent accidents.

⚠ WARNING: Always ensure that the saw is switched off and unplugged from the power supply before making any adjustments.

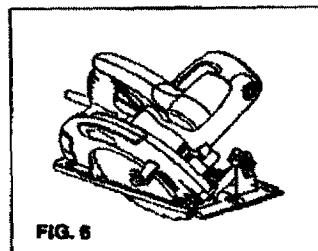
ADJUSTING THE CUTTING DEPTH

1. Loosen the depth locking lever as shown in Fig. 5.
2. Hold the base plate flat against the edge of the work piece and lift the body of the saw until the blade is at the desired cutting depth. The saw teeth must project 2 mm out of the wood.
3. Tighten the depth locking lever.



ADJUSTING THE CUTTING ANGLE

1. Loosen the angle locking knob located on the 0°-45° bevel gauge which is on the base plate.
2. Tilt the body of the saw (Fig. 6) until the required angle is reached by using the scale on the 0°-45° bevel gauge.
3. Tighten the locking knob to secure the base plate.



MAINTENANCE

Before each use inspect the circular saw, switch and cord for damage. Check for damaged, missing, or worn parts. Check for loose screws, misalignment or binding of moving parts, or any other conditions that may affect the operation. If abnormal vibration or noise occurs, turn the tool off immediately and have the problem corrected before further use. Before cleaning or performing any maintenance, the tool should be unplugged from the power supply. Using compressed air may be the most effective cleaning method. Always wear safety goggles when cleaning tools with compressed air.

⚠ WARNING: Do not let brake fluids, gasoline, petroleum-based products, penetrating oil, etc., come in contact with plastic parts. They contain chemicals that can damage, weaken or destroy plastic.

⚠ WARNING: When servicing use only identical replacement parts. Use of any other parts may create a hazard or cause product damage.

⚠ WARNING: Use only accessories that are recommended by the manufacturer for your model. Accessories that may be suitable for one tool may become hazardous when used on another tool.

⚠ WARNING: 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.

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

⚠ WARNING: Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains 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 on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

ACCESSORIES

The following recommended accessories are currently available at your local Sears Store.

⚠ WARNING: The use of attachments or accessories that are not recommended might be dangerous.

EXTENSION CORDS

Sears offers a large selection of extension cords that help extend your working range.

The use of any extension cord will cause some loss of power. To keep the loss at a minimum and to prevent overheating, use an extension cord that is heavy enough to carry the current that the tool will draw.

A wire gauge (AWG) of at least 14 is recommended for an extension cord 25 feet or less in length. When working outdoors ALWAYS use an extension cord that is suitable for outdoor use. The cord's jacket will be marked WA.

⚠ CAUTION: Keep extension cords away from the cutting area, and position the cord so it will not get caught during operation.

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

BLADES

Sears has a large selection of circular saw blades for fast, efficient cutting in a variety of materials and applications.

7 1/4-in.	40-Tooth	General-Purpose Cut-Off Blade
7 1/4-in.	35-Tooth	Master Combination Blade
7 1/4-in.	200-Tooth	Plywood Blade
7 1/4-in.	18-Tooth	Carbide Blade
7 1/4-in.	18-Tooth	Mach II Silver Series Carbide Blade
7 1/4-in.	24-Tooth	Mach II Silver Series Carbide Blade
7 1/4-in.	24-Tooth	Combination Carbide Blade

Sears also offers Combination Squares, Framing Squares and various length Edge Guides to help you with all your cutting needs.

