INSTRUCTION MANUAL

RANKOR

CIRCULAR SAW

RS145001

MADE IN CHINA

READ AND FOLLOW ALL SAFETY PRECAUTIONS IN THE INSTRUCTION MANUAL.

Content

Safety Notes

General Power Tool Safety Warnings

⚠WARNING

Read all safety warnings and all instructions. Failure to follow the warnings and instructions may result in electric shock, fire, or severe injury. Save all warnings and instructions for future reference. The power tool in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

Work area safety

- **Keep the work area clean and well-lit. Cluttered or dark areas invite accidents.**
- **Do not operate power tools in explosive atmospheres, such as in flammable liquids, gases or dust. Power tools create sparks that may ignite the dust or fumes.**
- **Keep children and bystanders away while operating a power tool. Distractions can cause you to lose control.**

Electrical safety

- **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools. Unmodified plugs and matching outlets will reduce the risk of electric shock.**
- **Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is earthed or grounded.**
- **Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.**
- **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep the cord away from heat, oil, sharp edges and moving parts. Damaged or entangled cords increase the risk of electric shock.**
- **When operating a power tool outdoors, use an extension cord suitable for outdoor use. Using a cord suitable for outdoor use reduces the risk of electric shock.**
- **If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply. The use of an RCD reduces the risk of electric shock.**

Personal safety

- **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating power tools may result in serious personal injury.**
- **Use personal protective equipment. Always wear eye protection. Protective equipment such as dust masks, non-skid safety shoes, hard hats, and hearing protection for appropriate conditions will reduce personal injuries.**
- **Prevent unintentional starting. Ensure the switch is off position before connecting it to the power source or battery pack or picking up or carrying the tool. Carrying power tools with your finger on the switch or energising power tools with the switch on invites accidents.**
- **Remove any adjusting key or wrench before turning the power tool on. A wrench or a key left attached to a rotating part of the power tool may result in personal injury.**
- **Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.**
- **Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewellery or long hair can be caught in moving parts.**
- **If devices are provided for connecting dust extraction and collection facilities, ensure these are connected and properly used. The use of dust collection can reduce dust-related hazards.**

Power tool use and care

- ▶**Don't force the power tool. Use the correct power tool for your application. The correct power tool will do the job better and safer at the rate for which it was designed.**
- ▶**Do not use the power tool if the switch does not turn on and off. Any power tool that cannot be controlled with the switch is dangerous and must be repaired.**
- ▶**Disconnect the plug from the power source or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools. Such preventive safety measures reduce the risk of starting the power tool accidentally**
- ▶**Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool. Power tools are dangerous in the hands of untrained users.**
- ▶**Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use. Poorly maintained power tools cause many accidents**
- ▶**Keep cutting tools sharp and clean. Properly maintained cutting tools with sharp edges are less likely to bind and are easier to control.**
- ▶**Use the power tool, accessories, tool sets, etc., in accordance with these instructions, taking into account the working conditions and the work to be performed. Using the power tool for operations different from those intended could result in a hazardous situation.**

Service

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

Safety Rules for Circular Saw

Intended use

The machine is intended for performing lengthways and crossways straight cuts and miter cuts with angles up to 45°in plywood and chipboard, as well as wood fiber and laminated materials while in firm contact with the material.

Noise / Vibration information

- ▶**Measured values are determined according to EN50144. Typically, the A-weighted noise levels of the tool are: sound pressure level 100 dB(A) and sound power level 113 dB(A). Wear ear protection!**
- ▶**The typical hand-arm vibration is below 2.5 m/s^2.**

Operation Precautions

Working safely with this machine is possible only when the operating and safety information are read completely. Additionally, safety instructions (page 8) must be followed. Ask for a practical demonstration before using the tool for the first time.

If the cable is damaged or cut through while working, do not touch it; immediately pull the mains plug. Never use the machine with a damaged cable.

- ▶**Wear safety glasses, hearing protectors, and protective gloves. Wear a face mask. For long hair, wear hair protection. Work only with close-fitting clothes. The machine must not be operated without the appropriate safety devices.**
- ▶**The swinging protective guard must be able to move freely and not be jammed in the open position. Always lay the cable away from the machine towards the rear.**

- ▶**Put the plug into the mains socket only when the machine is switched off. Do not leave clamping tools inserted. Clamp the workpiece if its weight cannot secure it.**
- ▶**Always hold the machine with both hands during operation and ensure you have a firm foothold. Apply the machine to the material only after it has been switched on. When working, always guide the machine away from the body.**
- ▶**The cutting path must be free of obstacles on the top and the bottom. The saw blade should not protrude below the workpiece more than 3 mm.**
- ▶**Keep hands away from the rotating saw blade. Be careful not to come in contact with the rotating saw blade on the underside of the workpiece. Do not work overhead with the machine. Do not cut into nails, screws, etc.**
- ▶**Do not work with materials containing asbestos. Do not tilt the saw blade. If the saw blade becomes jammed, switch off the machine immediately. Do not stop the saw blade after switching off with side pressure. Do not stop the saw blade with characteristics that do not comply with the instruction manual.**
- ▶**Do not use the saw with its disk thicker than the riving knife and its tooth space shorter than the thickness of the riving knife. Keep the distance between the riving knife and tooth ring less than 5 mm, and keep the overlength of the tooth ring over the bottom edge of the riving knife no longer than 5 mm. Do not use saw blades that have cracks or that are damaged.**
- ▶**Saw blades of highly alloyed, high-speed steel (HSS) must not be used.**
- ▶**The saw blade must not become stuck in the cut. The saw tooth offset must be wider than the saw blade itself.**
- ▶**Always remove the plug from the power supply socket before carrying out any work on the machine, when interrupting work, and when not using the machine. SKIL can ensure the machine's flawless functioning only when original accessories are used.**
- ▶**Ensure correct actions for the return structure of all guarding systems.**
- ▶**Do not use any grinding wheel except for tools specially designed to be assembled with a grinding wheel.**
- ▶**Do not operate the power tool stationary. It is not designed for operation with a saw table.**

⚠WARNING

- ▶**Keep hands away from the cutting area and the 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 reach underneath the workpiece. The guard cannot protect you from the blade below the workpiece.**
- ▶**Adjust the cutting depth to the thickness of the workpiece. Less than a full tooth of the blade teeth should be visible below the workpiece.**
- ▶**Never hold the piece cut in your hands or across your leg. Secure the workpiece to a stable platform. It is important to support the work properly to minimize body exposure, blade binding, or loss of control.**
- ▶**Hold the power tool by insulating gripping surfaces when operating 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 power tool "live" and shock the operator.**
- ▶**When ripping, always use a rip fence or straight-edge guide. This improves the accuracy of the cut and reduces the chance of blade binding.**
- ▶**Always use blades of arbor holes of the correct size and shape (diamond versus round). Blades that do not match the mounting hardware of the saw will run eccentrically, causing a 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 operation safety.**

Causes and operator prevention of kickback

Kickback is a sudden reaction to a pinched, bound, or misaligned saw blade, causing an uncontrolled saw to lift up and out of the workpiece 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 toward the operator. If the blade becomes twisted or misaligned in the cut, the teeth at the back edge of the blade can dig into the top surface of the wood, causing the blade to climb out of the kerf and jump back toward the operator.
Kickback results from saw misuse or incorrect operating procedures or conditions and can be avoided by taking proper precautions as given below:
1. Maintain a firm grip with both hands on the saw and position your body and arm to resist kickback forces. The operator can control kickback forces if proper precautions are taken.
2. When the 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.
3. When restarting a saw in the workpiece, centre the saw blade in the kerf and check that saw teeth are not engaged in the material. If the saw blade is binding, it may walk up or kick back from the workpiece as the saw restarts.
4. Support large panels to minimize the risk of blade pinching and kickback. Large panels tend to sag under their weight. Supports must be placed under the panel on both sides, near the line of cut and the edge of the panel,
5. Do not use dull or damaged blades. Unsharpened or improperly set blades produce a narrow kerf, causing excessive friction, blade binding, and kickback.
6. Blade depth and bevel adjusting locking levers must be tight and secure before cutting. If blade adjustment shifts while cutting, it may cause binding and kickback.
7. Use extra caution when making a "plunge cut" into existing walls or other blind areas. The protruding blade may cut objects that can cause kickback.

Lower Guard - Safety Measures

- **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 into the open position. If the saw is accidentally dropped, the lower guard may be bent. Raise the lower guard with the retracting handle and ensure it moves freely and does not touch the blade or any other part at all angles and depths of the cut.**
- **Check the operation 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 debris build-up.**
- **The lower guard should be retracted manually only for special cuts such as "plunge cuts" and "compound cuts." Raise the lower guard by retracting the handle, and as soon as the blade enters the material, the lower guard must be released. For all other sawing, the lower guard should operate automatically.**
- **Ensure that the guide plate of the saw will not shift while performing the "plunge cut" when the blade bevel setting is not at 90°. Blade shifting sideways will cause binding and likely kickback.**
- **Always ensure the lower guard covers the blade before placing the saw down on a 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 the switch is released.**

Additional safety rules for saws with a riving knife

1. Use the appropriate riving knife matched with the blade being used. For the riving knife to work, it must be thicker than the body but thinner than the teeth set of the blade.
2. Adjust the riving knife following these instructions in the manual. Incorrect clearance, location, and alignment can make the riving knife ineffective in preventing kickback.
3. Always use the riving knife except when making "plunge cuts". The riving knife must be replaced after plunge cutting. The riving knife causes interference during plunge cutting and can create kickback.

4.For the riving knife to work, it must be engaged into the workpiece. The riving knife is ineffective in preventing kickback during shortcuts.
5.Do not operate the saw if the riving knife is bent. Even light interference can also slow the closing rate of a guard.

Operation Instructions

Assembly

Attaching the blade

Disconnect the plug from the power source before making any assembly, adjustments, or changing accessories. Such preventive safety measures reduce the risk of starting the tool accidentally.

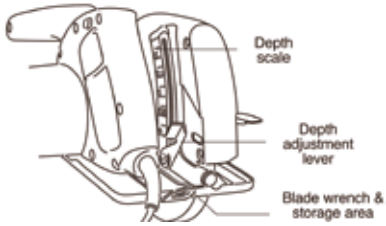
1. Turn the blade stud with the wrench provided counter-clockwise and remove the blade stud and outer washer. Press the lock button if the shaft moves while attempting to loosen the blade stud.
2. Retract the lower guard up into the upper guard. While retracting the lower guard, check the operation and condition of the lower guard spring.
3. Ensure the saw teeth and arrow on the blade point in the same direction as the arrow on the lower guard.
4. Slide the blade through the slot in the foot and mount it against the inner washer on the shaft. Be sure the large diameter of the outer washer lays flush against the blade.
5. Reinstall the outer washer and tighten the blade stud finger tight. Press the lock button to lock the shaft. For all models, tighten the blade stud 1/8 turn (45°) with the wrench provided.
Do not use wrenches with longer handles, as it may lead to over-tightening of the blade stud.

Vari-torque Clutch

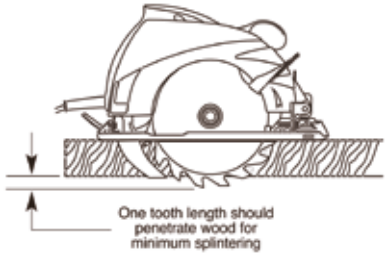
1. This clutching action is provided by the friction of the outer washer against the blade. It permits the blade shaft to turn when the blade encounters excessive resistance. When the blade stud is properly tightened (as described in "Attaching The Blade"), the blade will slip when it encounters excessive resistance, thus reducing the saw's tendency to kickback.
2. One setting may not be sufficient for cutting all materials. If excessive blade slippage occurs, tighten the blade stud a fraction of a turn more (less than 1/8 turn). Over-tightening the blade stud nullifies the effectiveness of the clutch.

Depth Adjustment

Disconnect the plug from the power source. Loosen the depth adjustment lever between the saw's guard and handle. Hold the foot down with one hand and raise or lower the saw by the handle. Tighten the lever at the desired depth setting.



The blade should not be more than one tooth length below the material to be cut for minimum splintering.

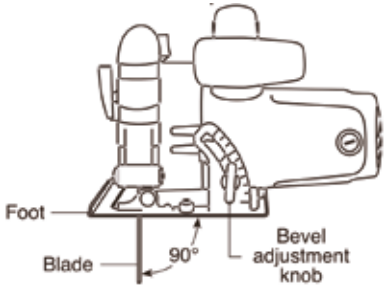


Depth Adjustment

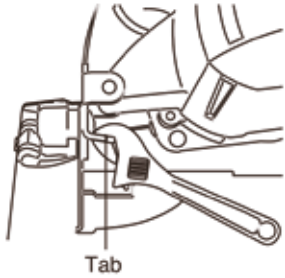
Disconnect the plug from the power source. Set the foot to the maximum depth of cut setting. Loosen the bevel adjustment knob, set to 0° on the quadrant, retighten the knob, and check for a 90° angle between the blade and the bottom plane of the foot with a square.

90° Cutting Angle Check

Disconnect the plug from the power source. Set the foot to the maximum depth of cut setting. Loosen the bevel adjustment knob, set to 0° on the quadrant, retighten the knob, and check for a 90° angle between the blade and the bottom plane of the foot with a square.

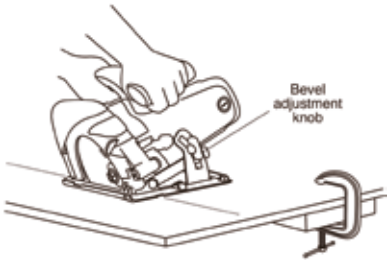


If adjustment is necessary, tilt the foot to 45°, tighten the bevel adjustment knob, and bend the "TAB" with an adjustable wrench or pliers.



Bevel Adjustment

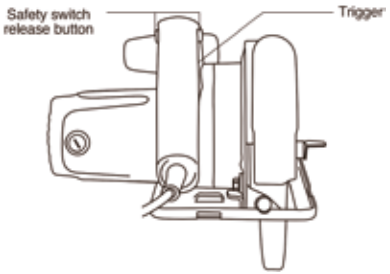
Before adjusting, disconnect the plug from the power source. The foot can be adjusted up to 45° by loosening the bevel adjustment knob located at the front of the saw. Align it to the desired angle on the calibrated quadrant and then tighten the bevel adjustment knob. Note that blade binding may occur due to increased blade engagement at work and decreased foot stability. Ensure the saw is steady and the foot is firmly on the workpiece.



Switch

⚠WARNING

When starting the tool, hold it with both hands. The torque from the motor can cause the tool to twist.
The safety switch is designed to prevent accidental starts. To operate the safety switch, press the release button with your thumb on either side of the handle to disengage the lock, then pull the trigger. When the trigger is released, the button will automatically engage the safety switch, and the trigger will no longer operate.
To turn the tool "ON", squeeze the trigger switch. To turn the tool "OFF", release the trigger switch, which is spring-loaded and will return to the off position automatically. The saw should be running at full speed before starting the cut and should be turned off only after the cut is completed. To extend the life of the switch, avoid turning it on and off while cutting.



General cuts

Always hold the saw handle with one hand and the auxiliary handle or housing with the other.

⚠ Warning: Always be sure neither hand interferes with the free movement of the lower guard. Maintain a firm grip and operate the switch with a decisive action. Never force the saw. Use light and continuous pressure.

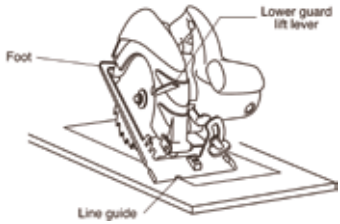
⚠ After completing a cut and the trigger has been released, be aware of the necessary time it takes for the blade to come to a complete stop during coast down. Do not allow the saw to brush against your leg or side; since the lower guard is retractable, it could catch your clothing and expose the blade. Be aware of the necessary blade exposures that exist in both the upper and lower guard areas.

When cutting is interrupted, to resume cutting, squeeze the trigger and allow the blade to reach full speed, re-enter the cut slowly, and resume cutting.
Wood fibers tend to tear and lift when cutting across the grain. Advancing the saw slowly to minimize this effect. A cross-cut blade or miter blade is recommended for a finished cut.

Pocket cuts

⚠ Warning: Disconnect the plug from the power source before making adjustments.

Set the depth adjustment according to the material to be cut. Tilt the saw forward with the cutting guide notch lined up with the drawn line. Raise the lower guard, use the lift lever, and hold the saw by the front and rear handles.



Start the motor with the blade clearing the material to be cut. Gradually lower the saw's back end using the foot's front end as the hinge point.

⚠ Warning: As the blade starts cutting the material, release the lower guard immediately.

When the foot rests flat on the surface being cut, proceed cutting in the forward direction to the end of the cut.

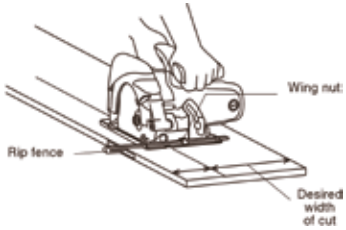
⚠ Warning: Allow the blade to come to a complete stop before lifting the saw from the cut. Also, never pull the saw backward since the blade will climb out of the material, and a kickback will occur.
Turn the saw around and finish the cut normally, sawing forward. If corners of your pocket cut are not completely cut through, use a jigsaw or hand saw to finish the corners.

Cutting Large Sheets

Large sheets and longboards may sag or bend, depending on support. If cutting without leveling and properly supporting the piece, the blade will tend to bind, causing KICKBACK and extra load on the motor. Support the panel or board close to the cut, as shown. Be sure to set the depth of the cut so that you cut through the sheet or board only and not the table or workbench. The two-by-fours used to raise and support the work should be positioned so that the broadest sides support the work and rest on the table or bench. Do not support the work with the narrow sides, as this is an unsteady arrangement. If the sheet or board to be cut is too large for a table or workbench, use the supporting two-by-fours on the floor and secure them properly.

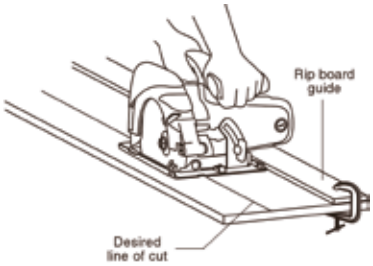
Rip Cuts

The combination blade provided with your saw is for both cross and rip cuts. Ripping is cutting lengthwise with the grain of the wood. Rip cuts are easy to perform with a rip fence. A Rip Fence is available as an accessory (not included). To attach the fence, insert it through the slots in the foot to the desired width, as shown, and secure it with the wing nut (not included).



Rip Board Guide

When rip-cutting large sheets, the rip fence may not allow the desired cut width. Clamp or nail a straight piece of 1x lumber to the sheet as a guide. Use the right side of the foot against the board guide.



Maintenance and Cleaning

⚠ Warning: Before any work on the machine itself, pull the mains plug.

Always keep the machine and ventilation slots clean for safe and proper working. In extreme working conditions, conductive dust can accumulate in the interior of the machine when working with metal. The protective insulation of the machine can be degraded. Using a stationary extraction system is recommended in such cases, as well as frequently blowing out the ventilation slots and installing a residual current device (RCD).
Suppose the machine should fail despite the rigorous manufacturing and testing procedures. In that case, repair should be carried out by an authorized after-sales service center for SKIL Power Tools.

Guarantee

We guarantee SKIL appliances in accordance with statutory/country-specific regulations (proof of purchase by invoice or delivery note). Damage attributable to normal wear and tear, overload, or improper handling will be excluded from the guarantee.
In case of a complaint, please send the unassembled machine to the dealer or the SKIL Service Centre for electric power tools.

⚠ Warning: Freight and insurance costs are charged to the client, even for warranty claims.

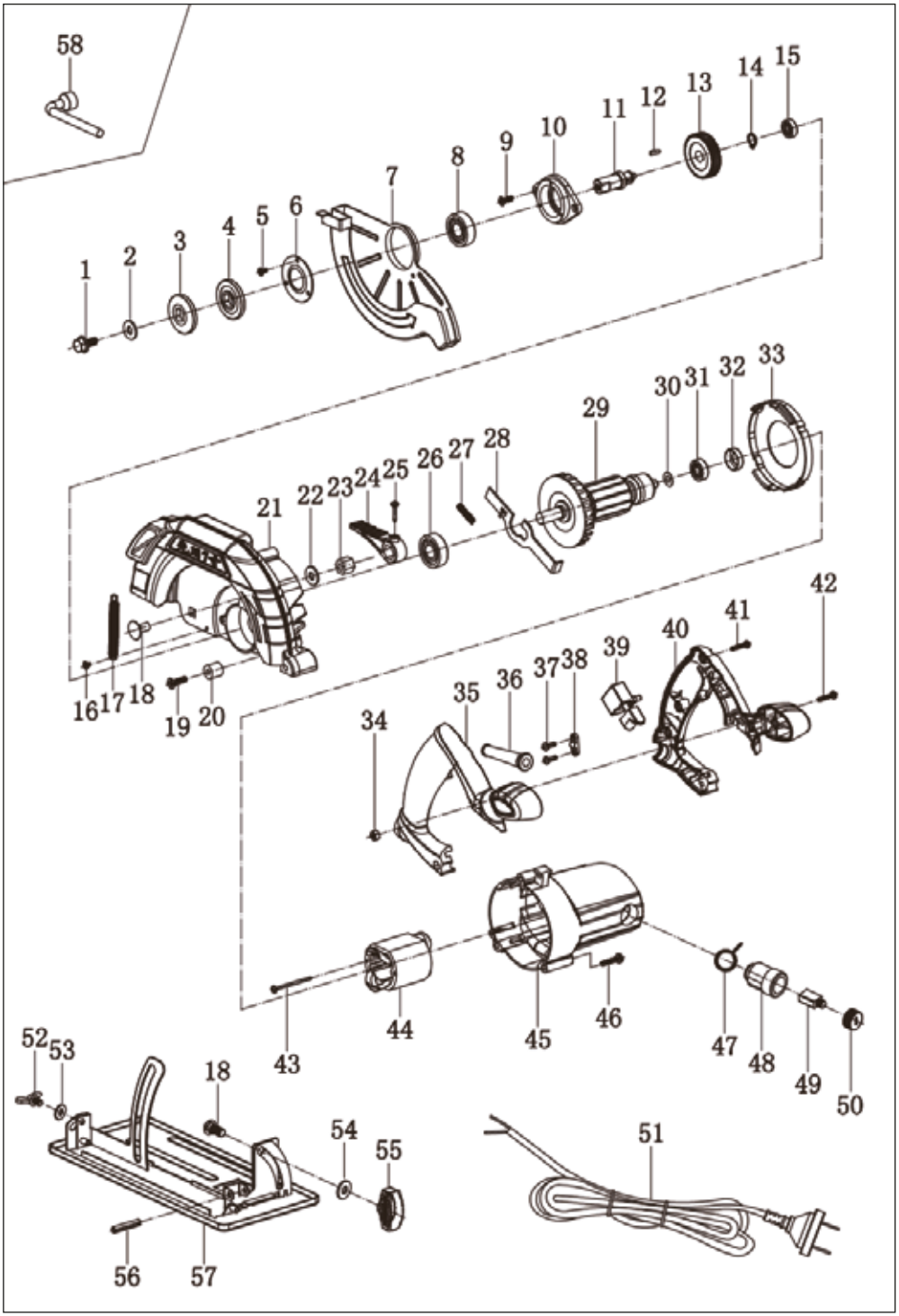
Environmental Protection

Recycle raw materials instead of disposing of them as waste. The machine, accessories, and packaging should be sorted for environmentally friendly recycling. The plastic components are labeled for categorized recycling.

Technical Data

Model No.	RS145001
Frequency	50/60Hz
Input Power	1450W
No-load Speed	5200r/min
Blade Size	185mm (7-1/4")
Voltage	220-240V~
Max cutting depth by 90 degree	61mm
Max cutting depth by 45 degree	42mm

CUT-OFF MACHINE SPARE PARTS LIST					
Exploded view NO.	Part name	Qty	Exploded view NO.	Part name	Qty
1	screw M8*16	1	30	washer ϕ8.1*ϕ16*0.5	1
2	flat washer ϕ8.5x20x1.8	1	31	bearing 608	1
3	upper press plate	1	32	bearing cap	1
4	down press plate	1	33	Wind shielo	1
5	screw M4*8	3	34	nut M5	2
6	bearing press plate	1	35	right handle	1
7	blade cover	1	36	shield sleeve	1
8	bearing 6202	1	37	screw ST4*14A	2
9	screw M5*14	2	38	press plate	1
10	front cover	1	39	switch	1
11	output shaft	1	40	left handle	1
12	woodruff key 3*10	1	41	screw ST4*16BT	5
13	big gear	1	42	screw M5*25	2
14	clamp spring ϕ12	1	43	screw M5*60A	2
15	bearing 626	1	44	stator	1
16	screw M5*6	1	45	motor house	1
17	blade cover spring	1	46	screw M5*30	3
18	screw M8x20	2	47	spring	2
19	screw M6x20	1	48	brush holder	2
20	limit column	1	49	carbon brush	2
21	gear box	1	50	brush holder cap	2
22	washer ϕ8.5xϕ20x1.8	1	51	cable	1
23	nut	1	52	nut M6*8	1
24	tighten wrench	1	53	washer ϕ6.2*ϕ16*1	1
25	screw ST4x14BT	1	54	washer ϕ10.5*ϕ20*1	1
26	bearing 6001	1	55	nut M8	1
27	self lock spring	1	56	pin ϕ6*35	1
28	self lock	1	57	base plate	1
29	rotor	1	58	spanner	1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