8 1/4" COMPOUND MITER SAW

OWNER'S MANUAL



⚠ WARNING:

Read carefully and understand all INSTRUCTIONS before operating. Failure to follow the safety rules and other basic safety precautions may result in serious personal injury.

Item # 332101

For technical questions and replacement parts, please call 1-800-222-5381.

Thank you very much for choosing a NORTHERN TOOL + EQUIPMENT CO., INC. Product! For future reference, please complete the owner's record below:

Model: _____ Purchase Date: _____

Save the receipt, warranty and these instructions. It is important that you read the entire manual to become familiar with this product before you begin using it.

This machine is designed for certain applications only. Northern Tool + Equipment strongly recommends this machine is not modified and/or used for any application other than that for which it was designed. If you have any questions relative to a particular application, DO NOT use the machine until you have first contacted Northern Tool + Equipment to determine if it can or should be performed on the product.

INTENDED USE

The Compound Miter saw is used to make a quick, accurate crosscuts in wood for framing operations and cutting molding. The saw's miter index allows the angle of the blade to be changed relative to the fence. The compound feature allows the angle of the cutting blade to be changed relative to the horizontal plane. This allows the saw to be used for bevel cutting.

TECHNICAL SPECIFICATIONS

Description	Specifications
Motor:	1.5Hp, 120V, 60Hz, 10 Amps
No-load speed:	4800 RPM
Blade Diameter:	8 1/4"
Bevels:	0 - 45º left only
Cutting Capacitiesl:	0º x 90°: 2-3/8" H x 4-3/4" W
	45º x 90°: 2-3/8" H x 3-3/16" W
	0º x 45°: 1-3/8" H x 4-3/4" W
	45º x 45°: 1-3/8" H x 3-3/16" W

ACCESSORIES

1 x 8-1/4" Blade
1 x Dust Bag
1 x Spanner
1 x Allen Key
1 set Carbon Brushes
3 x Extension Wings
1 x Clamp

GENERAL SAFETY RULES

⚠ **WARNING! Read and understand all instructions.** Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

⚠ **WARNING! The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions or situations that could occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.**

SAVE THESE INSTRUCTIONS

WORK AREA

- **Keep work area clean and well lit.** Cluttered and dark work areas can cause accidents.
- **Do not use your tool where there is a risk of causing a fire or an explosion; e.g., in the presence of flammable liquids, gasses, or dust.** Power tools create sparks, which may ignite the dust or fumes.
- **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control, so visitors should remain at a safe distance from the work area.

ELECTRICAL SAFETY

⚠ **WARNING!** Always check to ensure the power supply corresponds to the voltage on the rating plate.

- **Do not abuse the cord. Never use the cord to carry the tool. Keep cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately.** Damaged cords may cause a fire and increase the risk of electric shock.
- **Grounded tools must be plugged into an outlet properly installed and grounded in accordance with all codes and ordinances.** Never remove the grounding prong or modify the plug in any way. Do not use any adapter plugs. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded.
- **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 doesn't fit, contact a qualified electrician to install a polarized outlet. Do not change the plug in any way.**
- **Avoid body contact with grounded surfaces such as pipes, radiators, ranges, and refrigerators.** There is an increase risk of electric shock if you body is grounded.
- **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.
- **Ensure the extension cord you use is of sufficient gauge for its length (see chart):**

	Recommended Minimum Wire Gauge for Extension Cords					
Amps	**25' Length**	**50' Length**	**75' Length**	**100' Length**	**150' Length**	**200' Length**
0-5	16 gauge	16 gauge	16 gauge	14 gauge	12 gauge	12 gauge
5.1-8	16 gauge	16 gauge	14 gauge	12 gauge	10 gauge	Do not use
8.1-12	14 gauge	14 gauge	12 gauge	10 gauge	Do not use	Do not use
12.1-15	12 gauge	12 gauge	10 gauge	10 gauge	Do not use	Do not use
15.1-20	10 gauge	10 gauge	10 gauge	Do not use	Do not use	Do not use

- **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- **Do not let your fingers touch the terminals of plug when installing or removing the plug to or from the outlet.**

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.
- **Dress properly. Do not wear loose clothing of jewelry. Keep your hair, clothing and gloves away from moving parts.** Loose clothes, jewelry or long hair can be caught in moving parts. Air vents often cover moving parts and should be avoided.
- **Always use the appropriate ANSI Z87.1-rated eye protection and other safety equipment.** Safety equipment such as dust mask, non-skid safety shoes, hardhat, or hearing protection used for appropriate conditions will reduce personal injuries.
- **Avoid accidental starting. Ensure the switch is in the off position before plugging tool into power outlet.** Do not carry the power tool with your finger on the switch.
- **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- **Remove adjusting keys or wrenches before turning the tool on.** A wrench or key that is left attached to a rotating part of the tool may result in personal injury.

TOOL USE AND CARE

- **Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it was designed.
- **Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired by an authorized service representative.
- **Disconnect the power from tool and place the switch in the locked or off position before making any adjustments, changing accessories, or storing power tools.** Make sure blade has stopped. Such preventive safety measures reduce the risk of starting the power tool accidentally.
- **Secure work with clamps or a vise instead of your hand to hold work when practical.** This safety precaution allows for proper tool operation using both hands.
- **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 tools operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.
- **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control. Keep handles dry, clean, and free from oil and grease.

- **Use only accessories that are recommended by the manufacturer for your model.** Accessories that may be suitable for one tool may create a risk of injury when used on another tool.
- **Keep guards in place and in working order.**
- **Never leave tool running unattended.**
- **Replacement parts.** When servicing, use only identical replacement.
- **Service and repairs** should be made by qualified repair technicians at an authorized repair center. Improperly repaired tools could cause serious shock or injury.

⚠ CAUTION!

- **DAMAGED OR WARPED SAW BLADES** should not be used. They are out of balance and could cause further damage to the saw and possible personal injury.
- **USE ONLY WITH GUARD IN PLACE.** The guard protects you the operator from cutting debris as well as from broken pieces of the blade should it break in use.
- **REPLACE THE TABLE INSERT WHEN WORN.** Excessive tear-out increases the likelihood of injury from flying debris. When setting the saw at a new angle, check that due to some misalignment, the blade does not cut into the table insert, rear fence, or another part of your saw.
- **ALWAYS USE THE BLADE WRENCH** to tighten the saw blade onto the arbor.
- **CONNECT YOUR MITER SAW TO A DUST COLLECTING DEVICE** if possible. If not, use the dust bag that comes with the tool and empty it regularly.
- **USE A SAW BLADE SUITED TO THE CUTTING JOB AND MATERIAL TO BE CUT.**
- **CUT ONLY WITH THE MATERIAL PLACED FIRMLY AGAINST THE FENCE AND TABLE.** The rotation of the saw blade should force the material down against the table and rearward against the fence during the cut.
- **ALWAYS KEEP HANDS AT LEAST 6 INCHES FROM SAW BLADE,** and keep hands out of path of saw.
- **DO NOT USE BLADES RATED LESS THAN 4800 RPM.**
- **DO NOT ALLOW ANYONE TO STAND BEHIND THE SAW**
- **DO NOT APPLY LUBRICANTS TO THE BLADE WHILE IT IS RUNNING.**

OPERATION

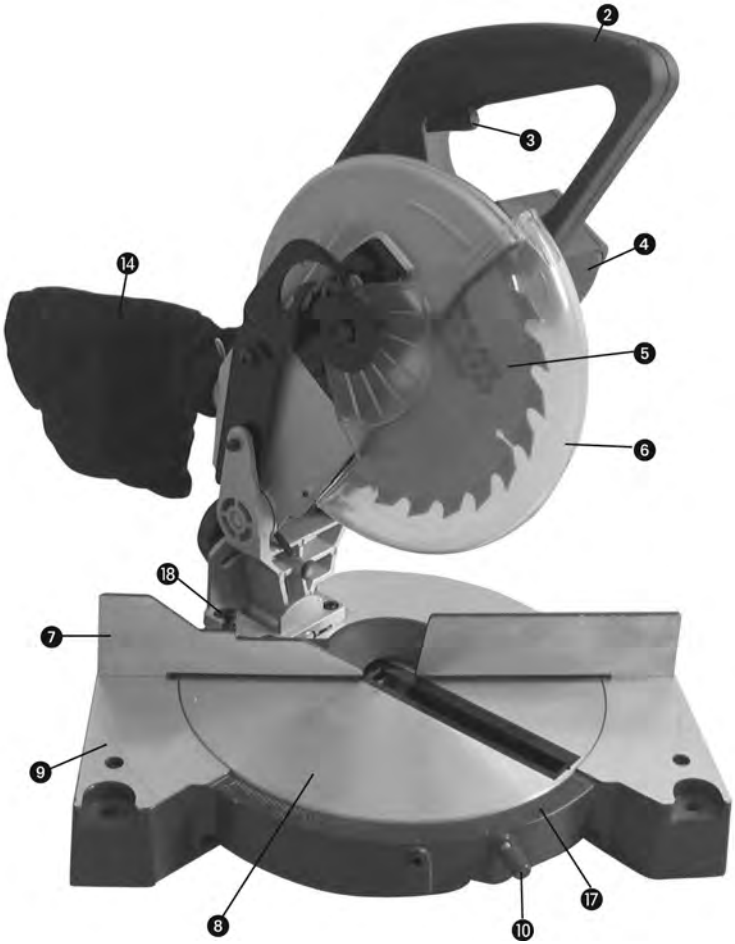
⚠ CAUTION! Be sure the saw is disconnected from power!

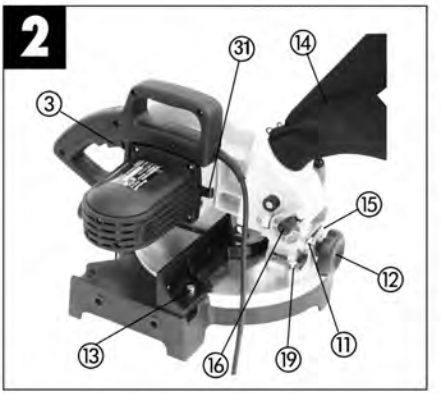
Before putting the machine into operation

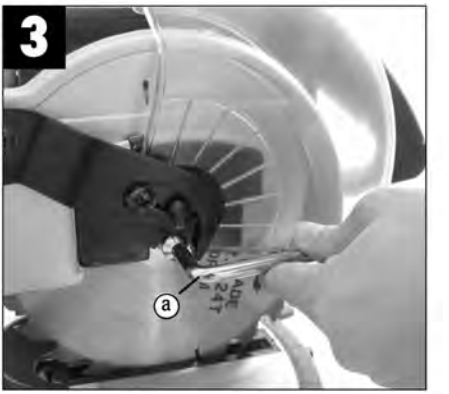
- The machine has to be set up where it can stand firmly, e.g., bolt it to a workbench, a universal base or something similar.
- All the covers and safety devices have to be properly fitted before the machine is connected to the power and switched on.
- The saw blade should be able to run freely.
- When working with wood that has been used before, watch out for nails, screws, etc.

- Before you activate the On/Off switch, make sure that the saw blade is correctly fitted and that the machine's moving parts run smoothly.
- Before you connect the machine to the power supply, make sure the data on the rating plate is the same as that for your main power.

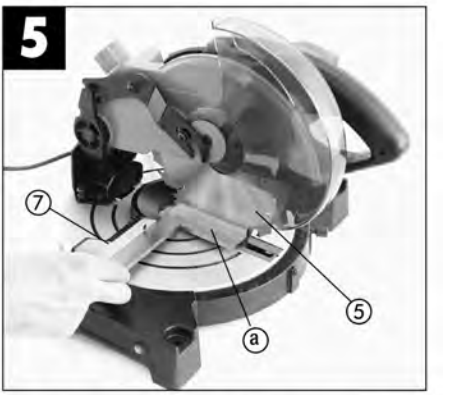
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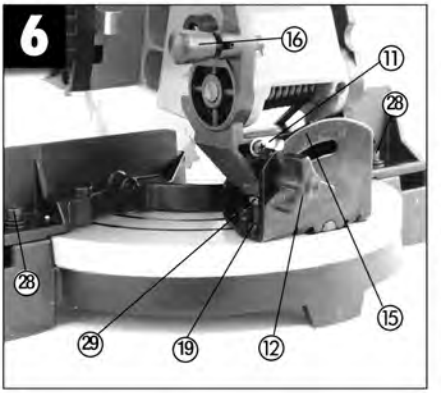


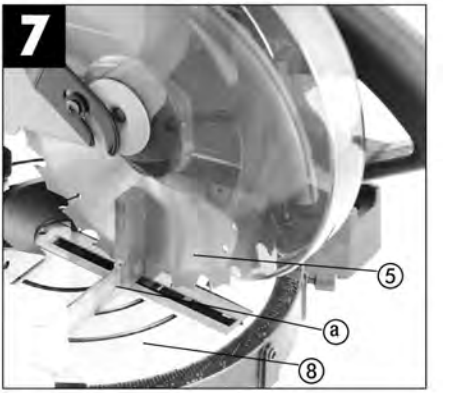

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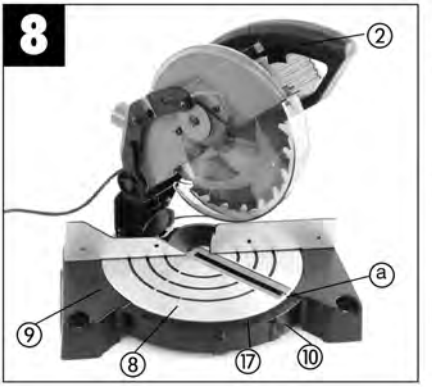

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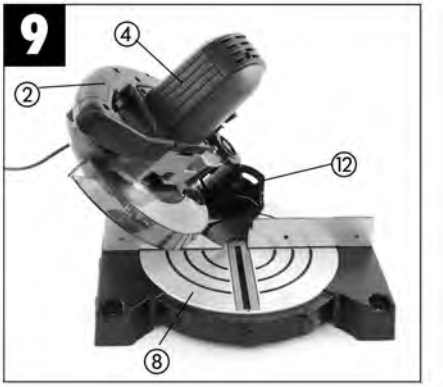

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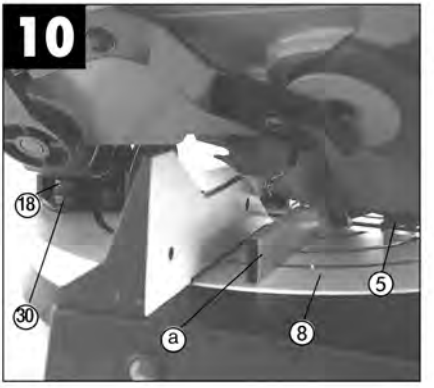

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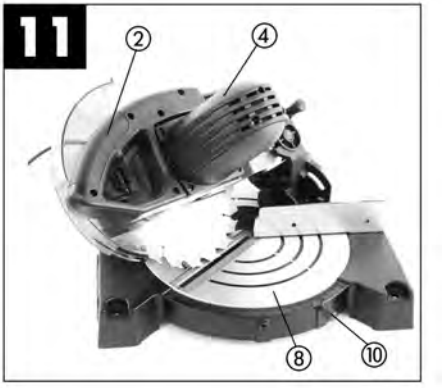

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Adjusting the Saw (Figs. 1 and 2, Parts Diagram)

- To adjust the turntable (8), loosen the locking grip (10) by turning it through 2 complete rotations to unlock the turntable (8).
- The turntable (8) can be set to 0°, 15°, 22.5°, 30° and 45°. As soon as the turntable (8) has engaged, the position must be fixed by tightening the locking grip (10).
- If different angles are required, the turntable (8) is fixed using the locking grip (10) alone.
- While pressing down lightly on the machine head (4), pull the lock pin (16) out of the motor holder to disengage the saw from its bottom working position.
- Swing up the machine head until the retaining hook latches home.
- Loosen screw (21) and remove screw (21).
- Slide the slotted side of the mounting plate on the mobile blade guard (6) under the screw head (21).
- Make sure the screw and washer (18) are firmly in place in the control lever of the mobile blade guard (19). Push the arbor lock arm (38) and then turn the blade until it is locked inside. Use the hex key to loose the arbor screw (24). Remove the outer flange (25).
- Change to the new blade and re-insert the screw (21) and retighten both screws (21).
- The saw head (4) can be tilted by max. 45° to the left by loosening the tensioning screw (13).
- Check that the voltage marked on the rating plate is the same as your main voltage before plugging in the machine.

Adjusting the fence (Figs. 5 and 6)

- Disconnect from the mains.
- Move the saw head (4) into the 90° position and tighten the locking grip (10).
- Push down the saw head (4).
- Place the angle (a) with the long grip against the fence, as shown in the illustration.
- Check whether the saw blade (5) is perpendicular to the fence (7).
- If the position has to be corrected, loosen the two fixing screws (28) of the fence (7) and adjust the fence (7) so that it is perpendicular to the saw blade (5).
- Once you have completed the adjustment work, retighten the two fixing screws (28).

90° cross-cuts and 0° rotary table (Fig. 1/2)

- Press the main switch (3) to turn on the saw.

Important! The material to be sawn must be placed flat on the machining table to that it cannot slip during cutting.

- After switching on the saw, wait for the blade (5) to reach its maximum speed.
- When the cut is completed, return the machine to its top parking position and let go of the On/Off switch.

⚠ **CAUTION!** A return spring causes the machine head to rise automatically at the end of the cut. Do not let go of the handle (2) as soon as the cut is completed but steady the machine head and allow it to rise slowly.

Precision adjustment of the stop for 90° cross-cuts (Fig. 6/7)

- Lower the saw head and fix with the lock pin.
- Slacken the locking nut (12).
- Place the stop angle (a) between the saw blade and the turntable.
- Slacken the counter nut (29) and adjust the setting screw (19) until the angle between the saw blade and the turntable equals 90°.
- Retighten the counter nut to fix the machine in this setting.
- Before you start work, check the position of the angle display (11). If necessary, loosen the pointer with a screwdriver for recessed head screws and move it to the 0° position on the angle scale (15). Then retighten the fixing screws.

90° cross-cuts and 0°-45° rotary table (Figs. 6 and 8)

The Compound Miter Saw can be used to make angled cuts of 0°-45° relative to the stop rail on the left and right side.

- Release the turntable (8) by loosening the locking grip (10).
- Turn the turntable (8) by its handle (2) to the angle you want, i.e., the mark (a)) on the rotary table has to comply with the required angle dimension (17) on the base plate (9).
- Retighten the locking handle (10) in order to fix the rotary table (8) in position.

Miter cuts 0-5° and rotary table 0° (Figs. 6 and 9)

The Compound Miter Saw can be used to make miter cuts of 0°-45° relative to the machine bed on the left side.

- Lift the saw head to its top position.
- Fix the turntable in 0° position.
- Undo the locking nut and, holding the handle (2), tilt the saw head to the left until the pointer coincides with the required angle dimension (15).
- Retighten the locking nut and make the cut.

Precision adjustment of the stop for 45° miter cuts (Figs. 2 and 10)

- Lower the saw head and fix with the lock pin.
- Fix the turntable in 0° position.
- Undo the locking nut and, holding the handle (2), tilt the saw head to the left by 45°.
- Place the 45° stop angle (a) between the saw blade and the turn table.
- Slacken the counter nut (30) and adjust the setting screw (18) until the angle between the saw and the turntable equals exactly 45°.

Mitre cuts 0°-45° and rotary table 0°- 45° (Fig. 11)

The Compound Miter Saw can be used to make miter cuts on the left at an angle of 0°-45° relative to the work top and 0°-45° relative to the stop rail.

- Lift the saw head to its top position.
- Release the turntable by loosening the locking grip.
- Adjust the turntable by its handle to the required angle.
- Retighten the locking handle to fix the rotary table in position.

- Undo the clamping nut and, holding the handle, tilt the machine head to the left to the required angle dimension.
- Retighten the clamping nut.

Chip extraction (Fig. 2)

The saw is equipped with a chip collection bag (14). The chip bag (14) can be emptied by opening the zip fastener at the bottom.

Replacing the saw blade (Fig. 2,3 and 4)

- Pull out the power plug.
- Swing up the saw head.
- Press the lever and swing up the saw blade guard to the point where the recess in the saw blade guard is above the flange bolt.
- Press the saw shaft lock (31) with one hand while holding the wrench (a) on the flange bolt with the other.
- Firmly press on the saw shaft lock (31) and slowly rotate the flange bolt in clockwise direction. The saw shaft lock engages after no more than one rotation.
- Now, using a little more force, slacken the flange bolt in clockwise direction.
- Turn the flange bolt until it is completely removed.
- Take the blade (5) off the inner flange and pul out downwards.
- Mount the new saw blade in reverse order and fasten.

Important! The cutting bevel of the teeth (i.e., the direction of rotation of the saw blade), has to conform with the direction of the arrow marked on the housing.

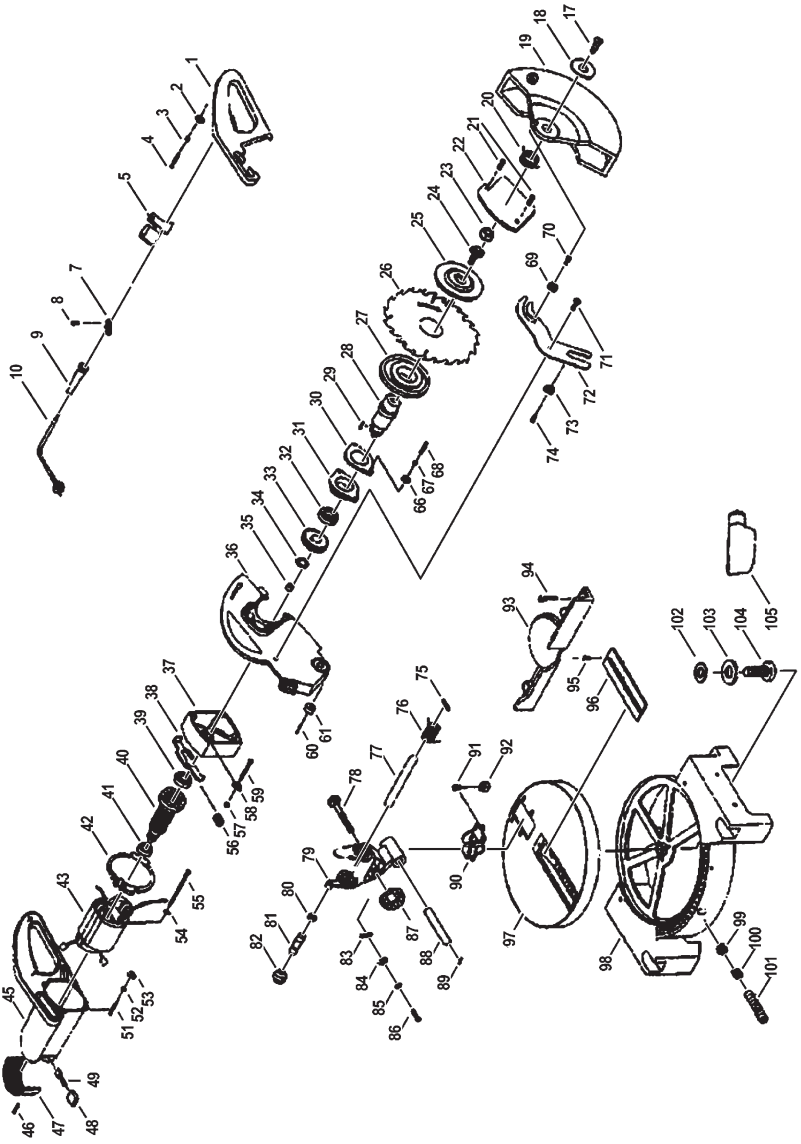
- Clean the saw blade flanges thoroughly before mounting the saw blade.
- Reattach the movable blade guard (6) in reverse order.
- Before using the saw again, check that the safet devices are in good working order.

⚠ **CAUTION!** Every time that you change the saw blade, check to see that it spins freely in the groove of the turntable in both perpendicular and 45° angle settings.

MAINTENANCE

- Keep the machine's air vents unclogged and clean at all times.
- Remove dust and dirt regularly from the machine. Cleaning is best done with compressed air or a rag.
- Lubricate all moving parts in regular intervals.
- Never use caustic agents to clean plastic parts.

DIAGRAM & PARTS LIST



No.	DESCRIPTION
1	Handle
2	Washer
3	Spring base
4	Screw
5	Switch
7	Cable clamp
8	Screw
9	Shield
10	Cable
17	Screw
18	Washer
19	Shield
20	Spring
21	Screw
22	Center plate
23	Stud
24	Arbor screw
25	Outer flange
26	Saw blade
27	Inner flange
28	Arbor
29	Woodruff key
30	Flange plate
31	Front cover
32	Bearing
33	Gear
34	Spring post

No.	DESCRIPTION
35	Bearing
36	Upper blade guard
37	Middle cap
38	Arbor lock arm
39	Bearing
40	Armature
41	Bearing
42	Fan baffle
43	Stator
45	Shell body
46	Screw
47	Back cap
48	Brush holder
49	Carbon brush
51	Screw
52	Spring base
53	Washer
54	Spring base
55	Screw
56	Spring
57	Spring base
58	Screw
59	Screw
60	Screw
61	Rubber circle
66	Washer
67	Spring base
68	Screw
69	Block
70	Screw
71	Screw
72	Joint

No.	DESCRIPTION
73	Block
74	Pan head screw
75	Screw
76	Spring
77	Pin
78	Pan head screw
79	Rotation support
80	Rubber circle
81	Self-locking pin
82	Rubber knob
83	Indicator
84	Washer
85	Spring base
86	Screw
87	Lock knob
88	Column pin
89	Screw
90	Bracket
91	Screw
92	Nut
93	Rail
94	Screw
95	Screw
96	Kerf plate
97	Table disc
98	Base
99	Steel ball
100	Spring
101	Screw handle
102	Spring base
103	Washer
104	Screw
105	Dust bag

⚠ WARNING!

Some dust created by power sanding, sawing, grinding, 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, 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 use approved personal protective equipment, such as dust masks that are specially designed to filter out microscopic particles.

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