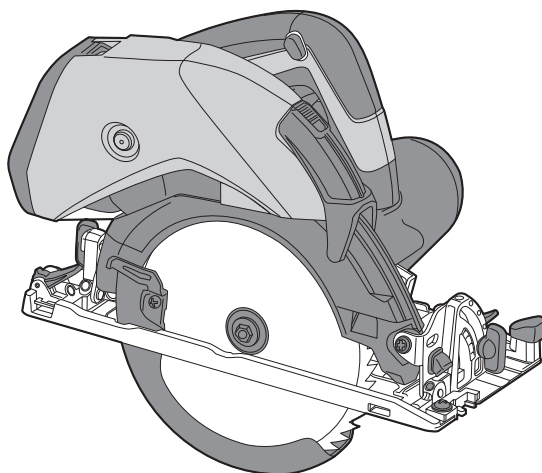
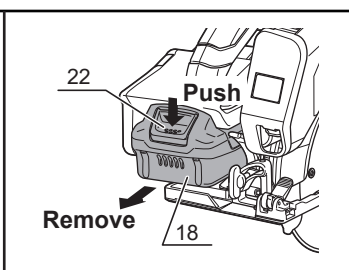
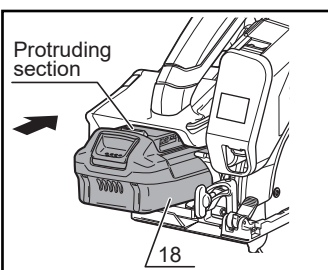
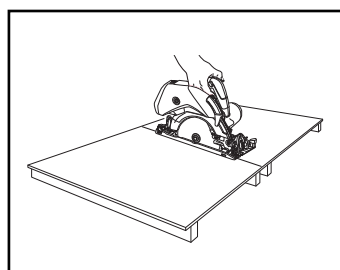
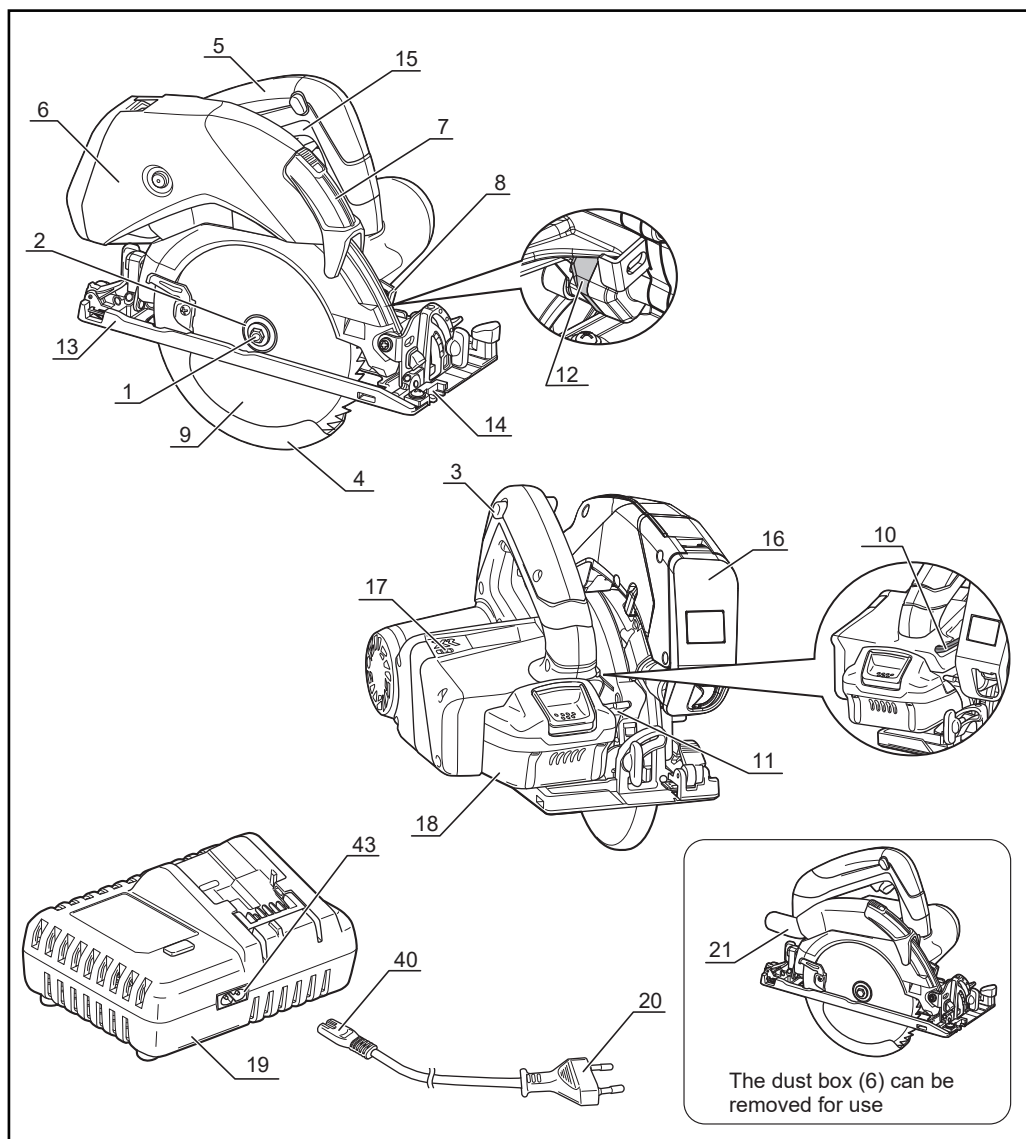
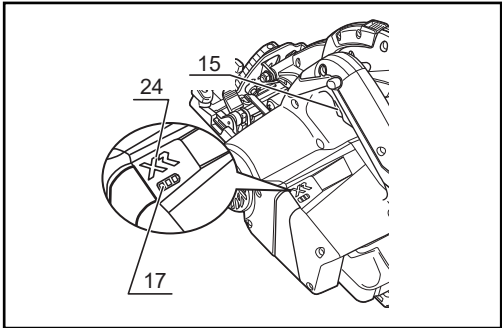


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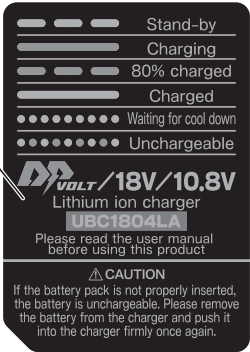
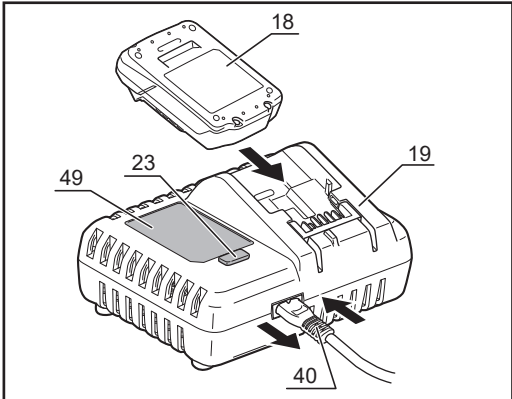
 OWNER'S OPERATING MANUAL







2



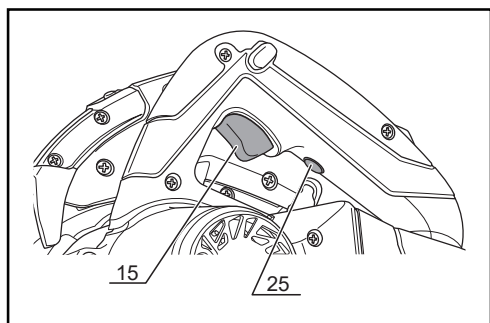
Lamp display

Table 1

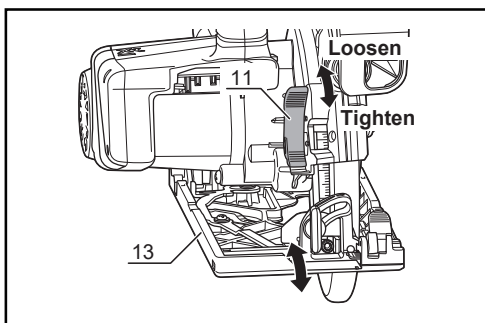
Display mode	Lamp color	Flashing speed	Meaning
Stand-by	Green	Flashing	The charger is plugged into the outlet.
Charging	Red	Solid	Charging
80% charged	Red	Flashing	80% fully charged
Charged	Green	Solid	Charging completed
Waiting for cool down	Green	Fast flashing	The battery pack is too hot for charging. • Charging will start automatically when the temperature is back to normal.
Unchargeable	Green, Red	Fast flashing (Alternately)	The battery cannot be charged. • Battery is damaged or at the end of its service life.

- Battery packs that have been purchased for the first time or have been stored for a long time may take longer to charge.
- The lamp might indicate inappropriately if the battery is not inserted properly.

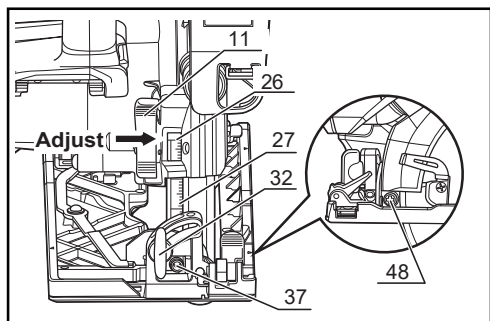
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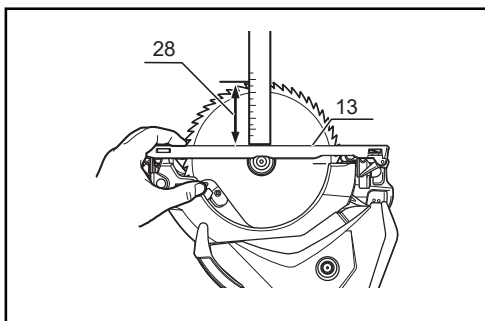
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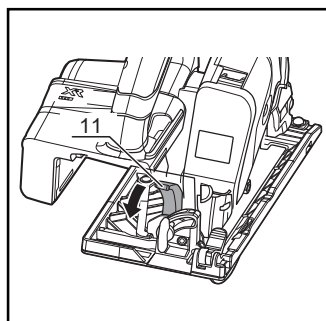
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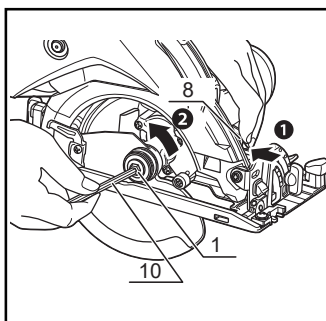
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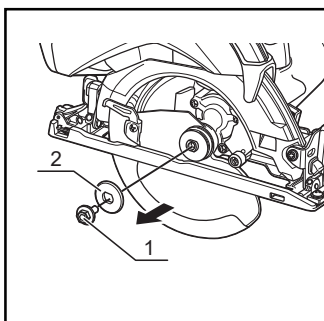
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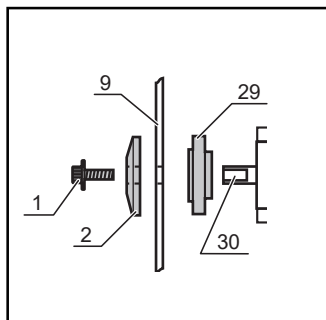
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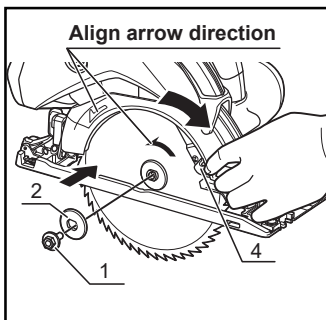
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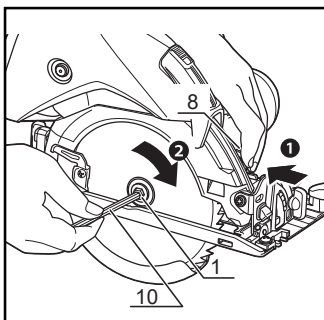
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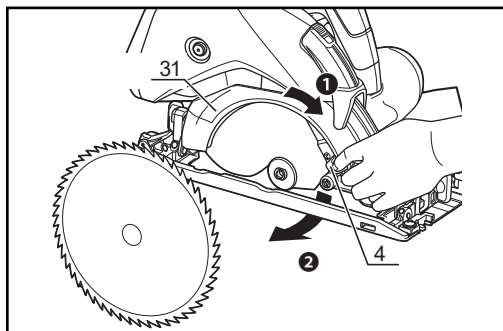
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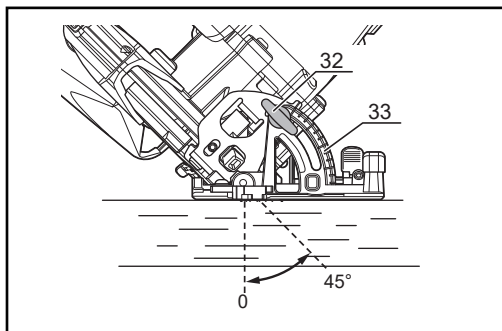
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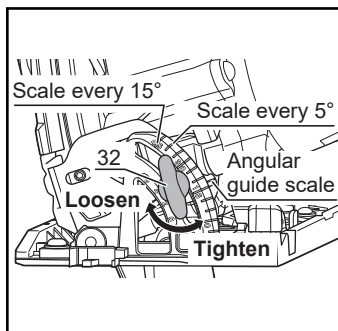
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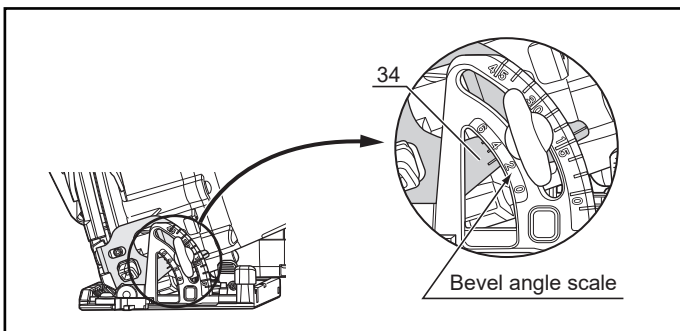
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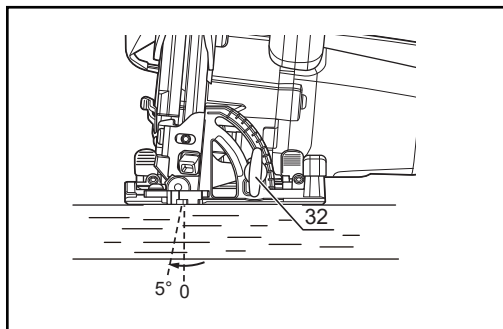
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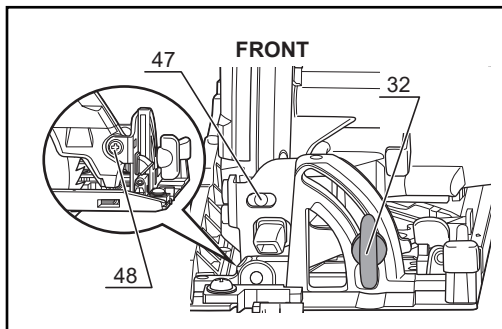
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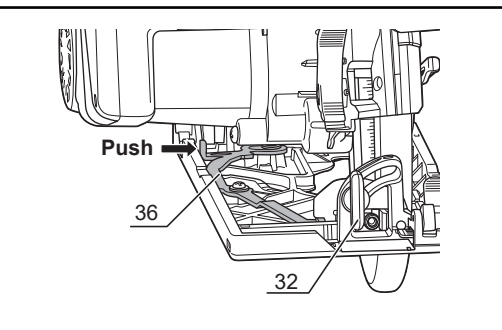
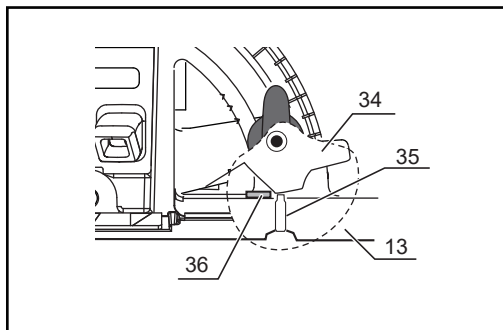
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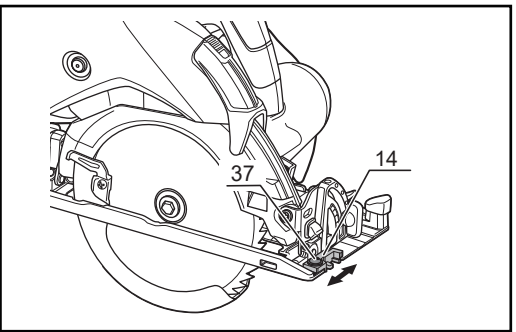
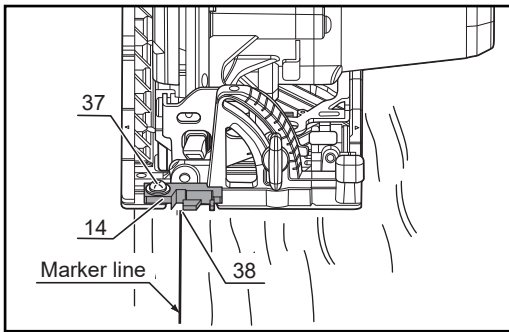
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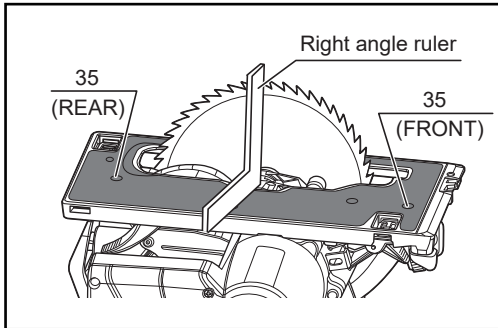
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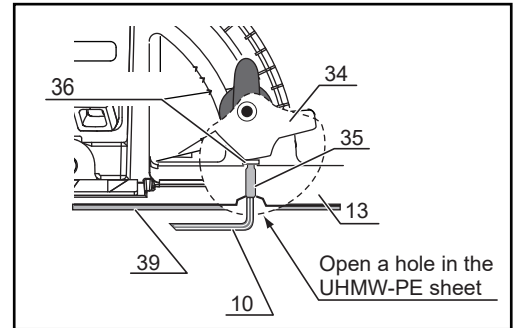
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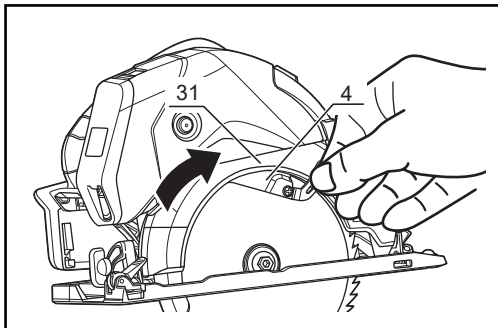
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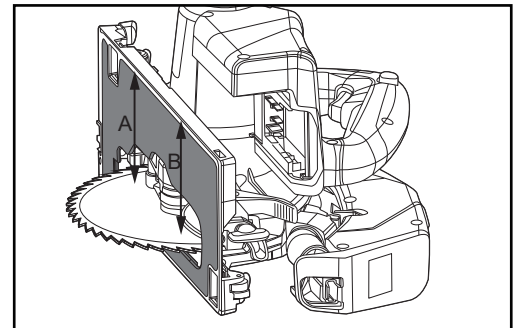
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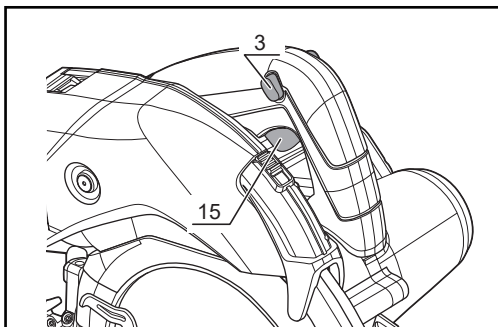
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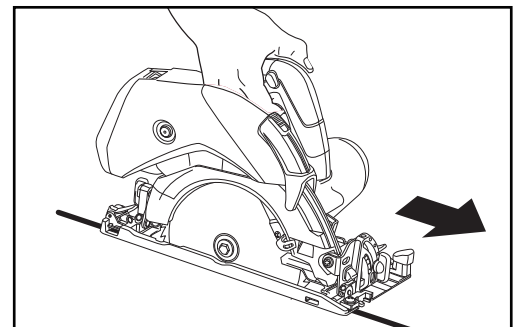
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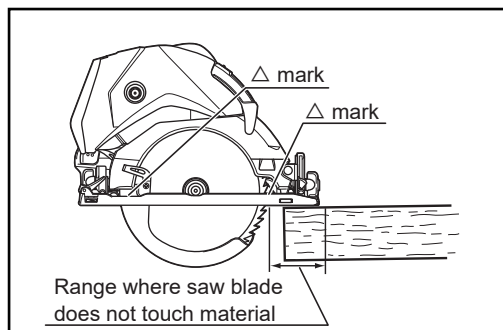
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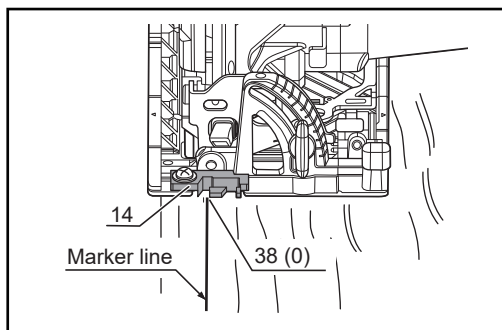
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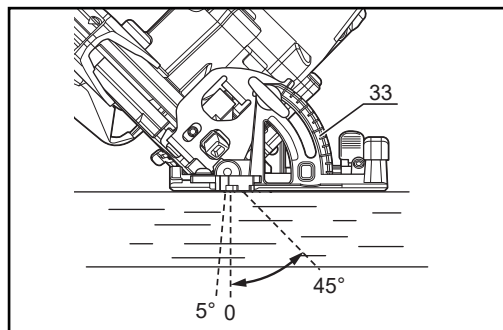
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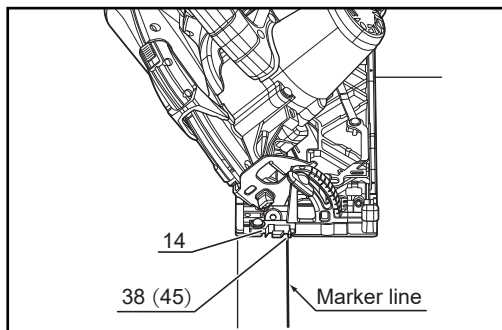
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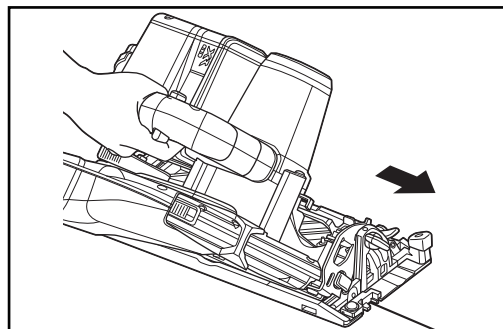
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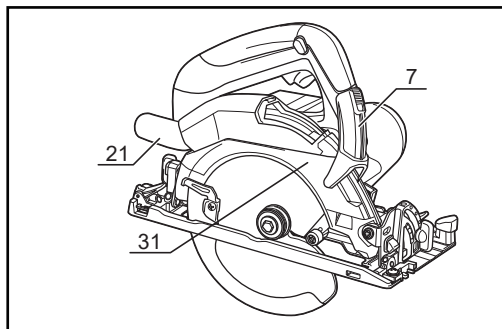
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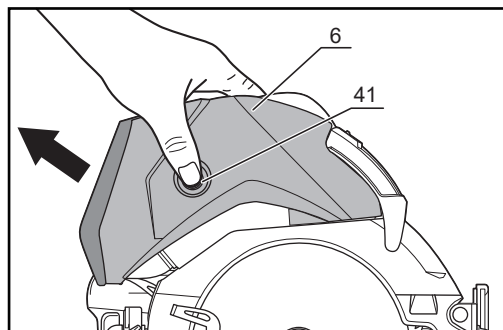
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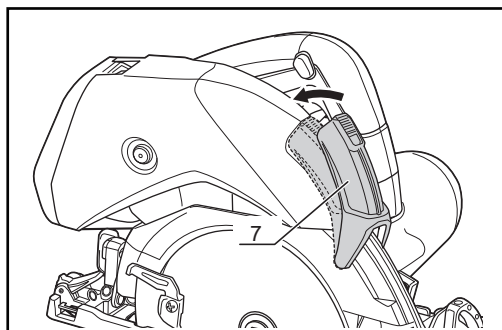
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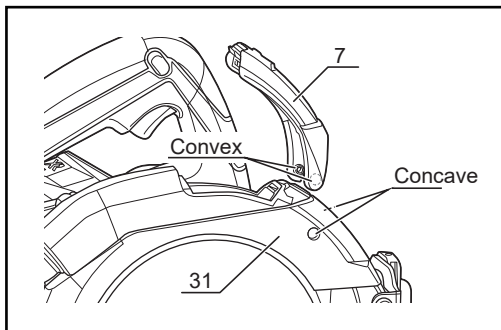
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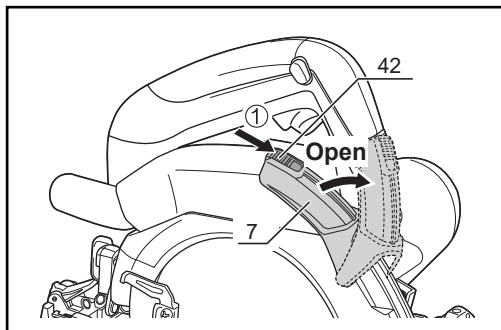
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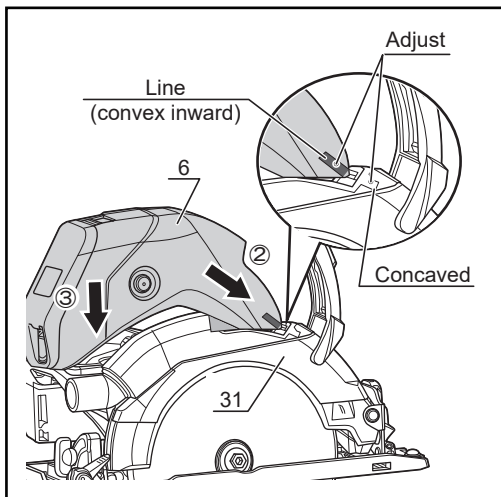
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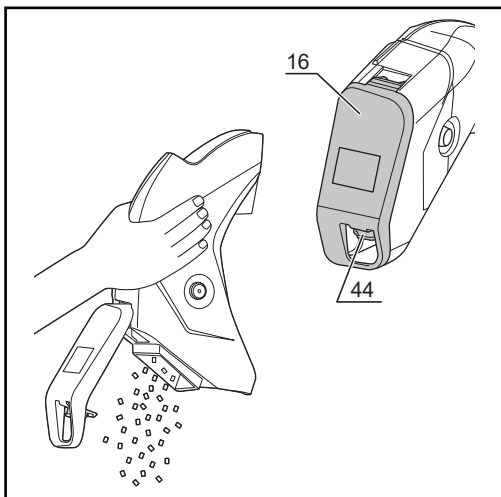
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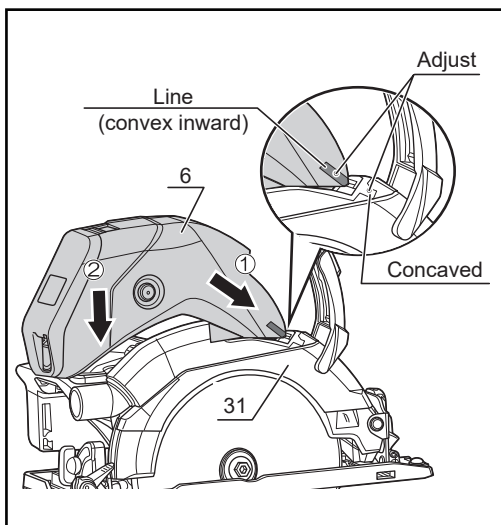
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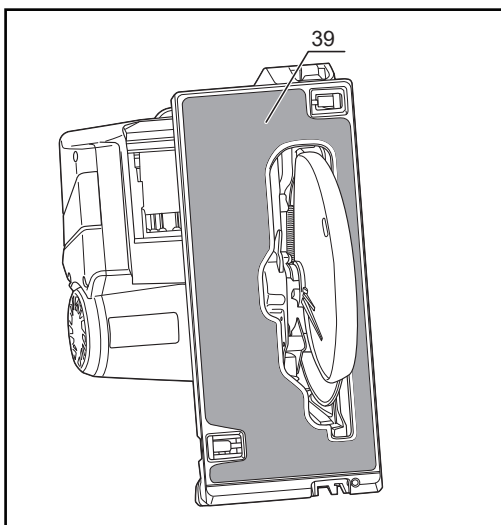
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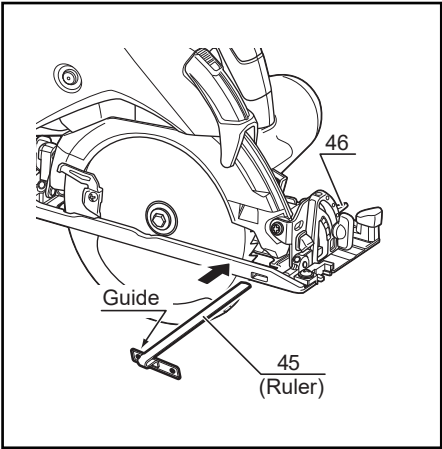
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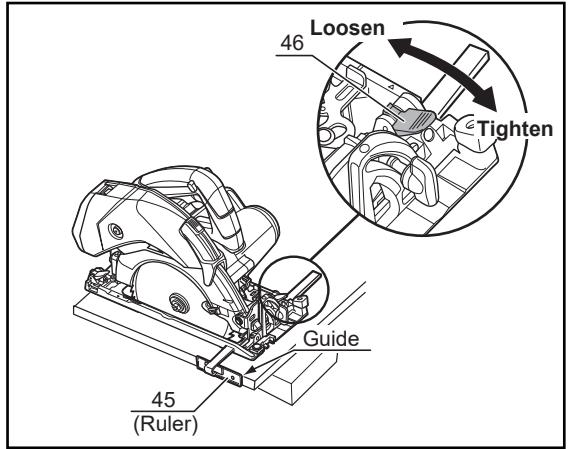
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42



43

THANK YOU FOR BUYING OUR PRODUCT.

To ensure your safety and satisfaction, carefully read through this **OWNER'S MANUAL** before using the product.

General power tool safety warnings

⚠ WARNING Read all safety warnings, instructions, illustrations and specifications provided with this power tool. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference.

The term "power tool" in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

1) Work area safety

- a) **Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
- b) **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.
- c) **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

2) Electrical safety

- a) **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 risk of electric shock.
- b) **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.
- c) **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- d) **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.
- e) **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.
- f) **If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply.** Use of an RCD reduces the risk of electric shock.

3) Personal safety

- a) **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.
- b) **Use personal protective equipment. Always wear eye protection.** Protective equipment such as a dust mask, non-skid safety shoes, hard hat or hearing protection used for appropriate conditions will reduce personal injuries.

- c) **Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energising power tools that have the switch on invites accidents.
- d) **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.
- e) **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- f) **Dress properly. Do not wear loose clothing or jewellery. Keep your hair and clothing away from moving parts.** Loose clothes, jewellery or long hair can be caught in moving parts.
- g) **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of dust collection can reduce dust-related hazards.
- h) **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.

4) Power tool use and care

- a) **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.
- b) **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.
- c) **Disconnect the plug from the power source and/or remove the battery pack, if detachable, 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.
- d) **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.
- e) **Maintain power tools and accessories. 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.** Many accidents are caused by poorly maintained power tools.
- f) **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- g) **Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.
- h) **Keep handles and grasping surfaces dry, clean and free from oil and grease.** Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.

5) Battery tool use and care

- a) **Recharge only with the charger specified by the manufacturer.** A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.
- b) **Use power tools only with specifically designated battery packs.** Use of any other battery packs may create a risk of injury and fire.
- c) **When battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys,**
- d) **Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help.** Liquid ejected from the battery may cause irritation or burns.
- e) **Do not use a battery pack or tool that is damaged or modified.** Damaged or modified batteries may exhibit unpredictable behaviour resulting in fire, explosion or risk of injury.
- f) **Do not expose a battery pack or tool to fire or excessive temperature.** Exposure to fire or temperature above 130 °C may cause explosion.
- g) **Follow all charging instructions and do not charge the battery pack or tool outside the temperature range specified in the instructions.** Charging improperly or at temperatures outside the specified range may damage the battery and increase the risk of fire.

6) Service

- a) **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.
- b) **Never service damaged battery packs.** Service of battery packs should only be performed by the manufacturer or authorized service providers.

Circular Saw Safety Warnings - Cutting procedures

- a) **⚠ DANGER: Keep hands away from cutting area and the blade. Keep your second hand on auxiliary handle, or motor housing.** If both hands are holding the saw, they cannot be cut by the blade.
- b) **Do not reach underneath the workpiece.** The guard cannot protect you from the blade below the workpiece.
- c) **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.
- d) **Never hold the workpiece in your hands or across your leg while cutting. Secure the workpiece to a stable platform.** It is important to support the work properly to minimise body exposure, blade binding, or loss of control.
- e) **Hold the power 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 power tool "live" and could give the operator an electric shock.
- f) **When ripping, always use a rip fence or straight edge guide.** This improves the accuracy of cut and reduces the chance of blade binding.
- g) **Always use blades with correct size and shape (diamond versus round) of arbour holes.** Blades that do not match the mounting hardware of the saw will run off-centre, causing loss of control.

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

Circular Saw Safety Warnings - Cutting procedures - Kickback causes and related warnings

- kickback is a sudden reaction to a pinched, jammed 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 jammed 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 is the result of saw misuse and/or incorrect operating procedures or conditions and can be avoided by taking proper precautions as given below.

- a) **Maintain a firm grip with both hands on the saw and position your arms to resist kickback forces. Position your body to either side of the blade, but not in line with the blade.** Kickback could cause the saw to jump backwards, but kickback forces can be controlled by the operator, if proper precautions are taken.
- b) **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.
- c) **When restarting a saw in the workpiece, centre the saw blade in the kerf so that the saw teeth are not engaged into the material.** If a saw blade binds, it may walk up or kickback from the workpiece as the saw is restarted.
- d) **Support large panels to minimise 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.
- e) **Do not use dull or damaged blades.** Unsharpened or improperly set blades produce narrow kerf causing excessive friction, blade binding and kickback.
- f) **Blade depth and bevel adjusting locking levers must be tight and secure before making the cut.** If blade adjustment shifts while cutting, it may cause binding and kickback.
- g) **Use extra caution when sawing into existing walls or other blind areas.** The protruding blade may cut objects that can cause kickback.

Circular Saw Safety Warnings - Lower guard function

- a) **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 lower guard lever and make sure it moves freely and does not touch the blade or any other part, in all angles and depths of cut.

- b) **Check the operation 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 build-up of debris.
- c) **The lower guard may be retracted manually only for special cuts such as "plunge cuts" and "compound cuts". Raise the lower guard by the lower guard lever 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.
- d) **Always observe that the lower guard is covering the blade before placing the saw down on bench or floor. An unprotected, coasting blade will cause the saw to walk backwards, cutting whatever is in its path. Be aware of the time it takes for the blade to stop after switch is released.**

INSTRUCTIONS FOR SAFE HANDLING

1. Make sure that the tool is only connected to the voltage marked on the name plate.
2. Never use the tool if its cover or any bolts are missing. If the cover or bolts have been removed, replace them prior to use. Maintain all parts in good working order.
3. Never touch the blade, drill bit, grinding wheel or other moving parts during use.
4. Never start a tool when its rotating component is in contact with the workpiece.
5. Never lay a tool down before its moving parts have come to a complete stop.
6. Check that the work piece is properly supported.
7. Ensure that ventilation openings are kept clear when working in dusty conditions. If it should become necessary to clear dust, first disconnect the tool from the mains supply (use nonmetallic objects) and avoid damaging internal parts.
8. **ACCESSORIES** : The use of accessories or attachments other than those recommended in these instructions might present a hazard.
9. **REPLACEMENT PARTS** : When servicing use only identical replacement parts.

DISPOSAL OF THE EXHAUSTED BATTERY

Li-ion batteries must be recycled.

Take the battery to the shop from which it was purchased as soon as battery life becomes too short for practical use.

Do not discard the exhausted battery.

DESCRIPTION

1. Bolt
2. Outer Flange
3. Lock-off button
4. Lower blade guard
5. Handle
6. Dust box
7. Dust box clip
8. Blade release lever
9. Saw blade
10. Hex. key wrench
11. Depth adjustment lever
12. LED light

13. Base plate
14. Guide
15. Switch (Trigger)
16. Dust box cover
17. Battery level indicator
18. Battery pack
19. Charger
20. Power plug
21. Dust nozzle
22. Push button
23. Charger lamp
24. Mode display lamp
25. LED light switch
26. Guide line
27. Scale marks
28. Cutting depth
29. Inner flange
30. Gear shaft
31. Safety guard
32. Wing bolt
33. Bevel angle scale
34. Angular guide
35. Bolt
36. Left bevel lever
37. Blade clamp screw
38. Line guide
39. Ultra-high molecular weight polyethylene sheet (UHMW-PE sheet)
40. Connector
41. Release button
42. Lock
43. Connector Junction
44. Hook
45. Saw guide fence
46. Lock lever
47. Blade clamp screw
48. Adjustment bolt
49. Label

SPECIFICATIONS

Blade diameter	165 mm
Blade bore	20 mm
Max. cutting capacity	
	90 ° 66 mm
	45 ° 44 mm
	-5 ° 61 mm
No load speed	4,100 min ⁻¹
Voltage	DC 18V (Li-ion)
Battery type	B-1850LA (5,000mAh)
Charger type	UBC1804LA
Charging time	Approx. 54 min
Overall Dimension	287 x 201 x 258 mm
Weight	3.3 kg
	(with 5,000mAh Battery)

* Be sure to check the nameplate on the product, because the voltage is subject to change depending on the area in which the product is to be used.

STANDARD ACCESSORIES

Saw blade, Hex. key wrench, Charger, Battery pack (5,000mAh) x 2, Carrying case

APPLICATIONS

(Use only for the purposes listed below.)

1. Sawing wood.

NOISE BUILD-UP

Noise (sound pressure level) in the workplace can exceed 85 dB (A). In this case, sound insulation and hearing protection measures must be taken by the operator.

REMOVING AND ATTACHING THE BATTERY PACK (Fig. 1)

(Attachment)

Align the protruding section of the battery pack (18) with the groove on the body, and slide the battery pack all the way into the groove in the direction of the arrow to attach securely.

(Removal)





Push and hold the push button (22) while pulling the battery pack (18) straight out in the direction of the arrow.

CHECKING THE BATTERY LEVEL (Fig. 2)

The battery level indicator (17) will light up or flash for a while when turn on the switch (15).

The battery level can be determined by the indicator state.

Indicator display details are as follows.

Display	Battery condition
 3 lit	Battery fully charged
 2 lit	Battery half charged
 1 lit	Charge soon
 1 flashing	Charge immediately

CHARGING

The battery pack (18) must be charged before you use the tool.

The batteries are affected by temperature, so do not charge them outside or in a location exposed to direct sunlight. Doing so will shorten the charging time and result in less than the full charge.

HOW TO CHARGE (Fig. 3)

The charger (19) may become a little warm while charging, but this does not affect its performance.

The charging condition is indicated by the flashing lamps on the charger (UBC1804LA). (Fig.3, Table 1)

1. Securely insert the connector (40) of the power cord into the connector junction (43) of the charger.
2. Insert the power plug (20) of the charger into the outlet.
3. Firmly insert the battery pack (18) into the charger (19).
4. When the charging is complete, remove the battery pack (18) from the charger (19).
5. Remove the power plug (20) of the charger from the outlet.
6. Remove the connector (40) from the connector junction (43) on the charger.

Note1: Lithium ion batteries can be charged when the battery packs are between 0°C and 40°C, but the charging time will be longer if the battery pack temperature is lower than 10°C.

Note2: The charging time will be longer when the battery level is low.

HOW TO EXTEND THE LIFE OF THE BATTERY PACK

Do not recharge a fully charged battery pack.

When the battery pack is not going to be used for an extended period of time (6 months or longer), store it with the battery fully charged.

Before storing the battery pack, remove it from the charger.

LED LIGHT (Fig. 4)

WARNING!

Do not look directly at light.

Looking at the light continuously may cause damage to eyes.

Two ways to turn on the LED light (12).

1. Push the LED light switch (25) to turn on the light and release it to turn off after about 30 seconds.
2. Pull the trigger (15) to turn on the light and release it to turn off after about 30 seconds. The light is interlocked with the switch.

ASSEMBLY INSTRUCTIONS

ALWAYS REMOVE THE BATTERY FROM THE TOOL BEFORE ATTACHING AND REMOVING THE SAW BLADE.

BE SURE THAT THE TEETH OF THE SAW BLADE ARE POINTING UPWARD AT THE FRONT OF THE TOOL.

ADJUSTING THE CUTTING DEPTH

(Figs. 5, 6, 7)

WARNING!

Depth adjustment lever (11) may cause injury when loose. Tighten thoroughly after adjustment.

1. Loosen the depth adjustment lever (11) at the rear of the tool, and adjust the base plate (13) up or down according to the thickness of the material.
2. After adjustment, tighten the depth adjustment lever (11) firmly.
3. Depth of cut can be adjusted using the scale lines when the base plate (13) and saw blade (9) are at right angles.
Match the guide line to the scale line. For example, when the guide line (26) is set to the scale line (27) at 15 mm, the depth of cut will be about 15 mm. Scale lines (27) are marked every 1mm.
* This scale line (27) cannot be used when the base plate (13) and saw blade (9) are beveled.
* The scale line (27) can be used to set the approximate depth of cut. For accurate adjustment, measure the distance of the saw blade.

ATTACHING AND REMOVING THE BLADE

(Figs. 8, 9, 10, 11, 12, 13 and 14)

(The mark on the blade should be visible from the outside.)

(ATTACHING)

1. Set the depth of cut deep. Loosen the depth adjustment lever (11), set the depth of cut to maximum (deepest), and tighten the depth adjustment lever (11).
Place the tool on a stable platform.

- Fix the gear shaft. Push in the blade release lever (8) (1), turn the blade clamp screw with a Hex. wrench (10) in direction of the arrow (2) to find a position where the gear shaft (30) stops rotating. (The gear shaft is fixed in this position.)
 - * When the Hex. wrench (10) is difficult to remove from the tool, remove the dust box (6).
- Remove the blade clamp screw (1) and outer flange (2). With the gear shaft (30) fixed, rotate the Hex. wrench (10) in the direction of arrow to loosen the blade clamp screw (1), and remove the blade clamp screw (1) and outer flange (2).
- Check the direction of the inner flange (29).
- Install the blade (9). Hold the pinch of lower blade guard (4), and with the lower blade guard (4) fully raised, install the saw blade (9) on top of the inner flange (29).
 - * Install the outer flange (2) and blade clamp screw (1) in this order.
 - * Install the saw blade (9) so the arrow on the saw blade (9) is in the direction of the arrow on the safety cover (31).
- Tighten the blade clamp screw (1). Push in blade release lever (8) (1), and tighten the blade clamp screw (1) firmly with the Hex. wrench (10) in the direction of the arrow (2).

WARNING!

Make sure the blade release lever (8) returns to its original position and that the saw blade (9) rotates smoothly.

(REMOVING)

- Set the depth of cut deep. Loosen the depth adjustment lever (11), set the depth of cut to maximum (deepest), and tighten the depth adjustment lever (11).
 - Place the tool on a stable platform.
- Fix the gear shaft (30). Push in the blade release lever (8) (1), turn the blade clamp screw (1) with a Hex. wrench (10) in direction of the arrow (2) to find a position where the gear shaft (30) stops rotating. (The gear shaft (30) is fixed in this position.)
- Remove the blade clamp screw (1) and outer flange (2). With the gear fixed, rotate the Hex. wrench (10) in the direction of arrow to loosen the blade clamp screw (1), and remove the blade clamp screw (1) and outer flange (2).
- Remove the saw blade (9). Hold the pinch of lower blade guard (4), pull in lower blade guard (4) inside the safety cover (31), and remove the saw blade (9).

ADJUSTING THE CUTTING BEVEL

(Figs. 6, 15, 16, 17 and 5, 18, 19, 20)

WARNING!

Wing bolt (32) may cause injury when loose. Tighten thoroughly after adjustment.

(RIGHT BEVEL)

- The cutting angle may be adjusted to any desired angle between 0° and 45°.
- Loosen the wing bolts (32) which are positioned at the front and back of the tool and move the base plate (13) to the desired angle according to the bevel angle scale (33).
- The bevel angle scale (33) is provided in 15° increments at the wing bolt fastening point on the front of the base plate (13), and in 5° increments on

the side. Set angular guide to scale.

- * To cut at an exact angle, measure the actual angle between base plate and saw blade with a ruler.
- After adjusting the desired angle, be sure to retighten the knob bolts (32) firmly.
 - * When beveled right, the maximum depth of cut is 44mm when the bevel angle is set to 45°. Measure the length of the saw blade before use.
 - To set the bevel at the bevel angle scale (33), match angular guide and bevel angle scale (33).
 - The bevel angle scale (33) is in approx 30 mm increments from 0 to 6.

(LEFT BEVEL)

- The left cutting angle may be adjusted to any desired angle between 0° and -5°.
- Set the depth of cut shallow. Loosen the depth adjustment lever (11), set the depth of cut to minimum (shallowest), and tighten the depth adjustment lever (11).
- Loosen the wing bolts (32) which are positioned at the front and rear of the tool.
- Release the left bevel lever (36). Push the left bevel lever (36) in direction of arrow, and tilt the tool until the angular guide (34) touches the bolt (35).
- Adjust the bevel angle. The left cutting angle may be adjusted to -5°.
 - * To cut at an exact angle, measure the actual angle between base plate (13) and saw blade with a ruler.
- Tighten the wing bolt (32). After determining the bevel angle, tighten the front and rear wing bolts (32).
 - * When beveled left, the maximum depth of cut is 61 mm when the bevel angle is set to 5°. Measure the length of the saw blade before use. The battery pack (18) touches the base plate (13) when tilted to the left in maximum depth of cut. In this case, adjust the depth of cut.

HOW TO ADJUST THE GUIDE (Fig. 21)

- Guide (14) mounting position can be adjusted.
 - When shipped from the factory, the guide groove (38) is aligned with the inner face of the saw blade. In by any possibility that the mounting position is incorrect, loosen the blade clamp screw (37), move the guide (14), and adjust the position.

HOW TO ADJUST THE RIGHT ANGLE (Figs. 6, 19, 22, 23)

This tool allows fine adjustment of the right angle between the base plate (13) and the saw blade. The right angle (0°) position is adjusted at the factory, however by any possibility that the right angle is incorrect, make the following adjustments.

- * Depth adjustment lever (11) is adjusted while tightened.

- Loosen the wing bolts (32) which are positioned at the front and rear of the tool.
- Open a hole in the UHMW-PE sheet (39). The adjustment bolts (35) are hidden underneath the UHMW-PE sheet (39). Hold the UHMW-PE sheet (39) and check position of the bolt (35). Make a hole in the position of the bolt (35).
- Make a right angle. Place a right-angle ruler (square, etc.) on the back of the base plate (13) and the saw blade to make a right angle (When the blade clamp screw (35) does not make a right angle with the

convex part of the angular guide (34), loosen the blade clamp screw (35)). Tighten the wing bolt (for bevel) (32) lightly.

4. **Check the angle.** Check again with a right-angle ruler to ensure that there are no misalignments during tightening.
5. **Fix the angle position.** Turn the blade clamp screws (35) at the front and rear of the base plate (13) with a Hex. wrench (2.5mm: Use commercially available products) (10) until they touch the convex part of the angular guide (34).
Tighten the wing bolt (32) securely after adjustment.
- * The blade clamp screw (35) has a loosening prevention device to prevent loosening during use. Do not turn the screw forcibly as it may damage the screw head. If you find it difficult to turn the screw, warm the screw with a dryer or the like to make it easier to turn.

HOW TO ADJUST THE PARALLEL (Figs. 6, 19, 24, 25)

The parallel between the side of the base plate (13) and the saw blade can be adjusted. The parallel is adjusted at the factory, however by any possibility that the parallel is incorrect, make the following adjustments.

- * When the depth of cut is adjusted after the parallel is adjusted, the parallel may be incorrect. After adjusting the depth of cut, adjust the parallel.
 - * Depth adjustment lever (11) and wing bolt (32) are adjusted while tightened.
1. **Loosen the blade clamp screw (2 points) (47).**
Loosen the blade clamp screws (47) on the front and rear faces of the base plate (13) with a Hex. wrench (2.5mm: Use commercially available products) (10).
 - * The blade clamp screw (47) has a loosening prevention device to prevent loosening during use. Do not turn the screw forcibly as it may damage the screw head. If you find it difficult to turn the screw, warm the screw with a dryer or the like to make it easier to turn.
 2. **Pull in lower blade guard (4) inside the safety cover (31), and put out saw blade (9).**
 3. **Measure at two points and align the positions.**
Turn the front and rear adjustment bolt (48) with a Phillips head screwdriver so that dimensions A and B from the side of the base plate (13) to the saw blade are the same.
 4. **Tighten the blade clamp screw (47).** After adjustment, tighten the front and rear blade clamp screws (47) securely.

SWITCH (Fig. 26)

This tool is started and stopped by depressing and releasing the trigger (15).

The trigger switch is equipped with a lock-off button (3) to prevent inadvertent operation.

While push the lock-off button, depress the trigger.

Once the saw is on, the lock-off button can be released.

The spring-loaded lock-off button will spring back into the lock-off position when the trigger switch is released.

WARNING!

Prevent unintentional starting. Do not insert the battery with the switch in the ON position.

When battery level indicator is flashing, the battery protection is working. (Please read "BATTERY PROTECTION")

Turn the switch off and on again, and the tool will restart.

When turning the switch rapidly under battery protection, the tool would still not work. However, it is not a malfunction.

Mechanisms of switch operation (SOFT-START)

A soft-start mechanism is provided to reduce the consumption of the battery power in order to reduce recoil during start up.

(ELECTRIC MOTOR BRAKE)

An electric motor brake mechanism is provided to quickly stop the saw blade when the switch is turned off.

AUTOMATIC MODE SWITCH FUNCTION (Fig. 2)

This tool has an automatic operation mode switch function (high torque mode) depending on the load during work.

When the mode display lamp (24) is lit, the machine is in high torque mode.

OPERATING

DANGER!

KEEP HANDS AWAY FROM THE CUTTING AREA.

It is important to saw with steady and even pressure (DO NOT FORCE) in order to obtain a uniform cut. Cut at a speed suited to the work piece. (Work slowly when work piece is hard.)

Inspect the saw blade frequently and replace or sharpen if dull, to avoid overloading the motor.

CUTTING POSITION (Figs. 5, 27, 28, 29 and 6, 19, 30, 31, 32)

(CUT ALONG THE MARKER LINE)

1. **Adjust the depth of cut.** Adjust the depth of cut according to the thickness of the material.
2. **Make sure the switch is turned off and attach the battery pack (18) to the tool.**
3. **Align with the marker line.** Place the main unit (base plate (13)) on top of the material and align the guide groove (0) (38) on the front of the base plate (13) with the marker line.
4. **Turn on the switch and proceed slowly.** Make sure that the blade (9) is not against the material, and start the saw. Bring up to a constant speed (full speed), and put the material in close contact with the base plate (13). Slowly move forward so that the guide groove (38) traces the marker line, and keep this position until the end of the cut. To get a clean cut surface, proceed straight at a constant speed.
- * The two Δ marks on the side of the base plate (13) indicate the position of the saw blade when the maximum depth of cut is set. Use this as a reference for the switch operation at the start and end of cut.
5. **Finish cutting.** After finishing cutting, release finger from the switch (15) to turn it off, and lift the tool after the saw blade (9) has completely stopped rotating.

(CUT AT AN ANGLE)

1. **Adjust the bevel angle.** The saw blade (9) can be beveled 5° to the left and 0 to 45° to the right to the base plate (13) for cutting. Loosen the front and rear wing bolts (32) and adjust the bevel angle. After determining the bevel angle, make sure to tighten the front and rear wing bolts (32).

* The bevel angle scale (33) is on the front side of the base plate (13). To cut at an exact angle, measure the actual angle between base plate (13) and saw blade (9) with a ruler.

2. Adjust the depth of cut. Adjust the depth of cut according to the thickness of the material.

* The scale line cannot be used for bevel angle cutting. Measure and adjust the length of the saw blade (9).

3. Make sure the switch is turned off and attach the battery pack (18) to the tool.

4. Align with the marker line (only at 45° right bevel). When cutting along the marker line, place the main unit (base plate (13)) on the material and align the saw blade (9) to the marker line. At 45° right bevel, align the guide groove (45°) (38) on the front of the base plate (13) with the marker line.

5. Turn on the switch and proceed slowly. Make sure that the blade (9) is not against the material, and start the saw. Bring up to a constant speed (full speed), and put the material in close contact with the base plate (13). Slowly move forward so as to trace the marker line, and keep this position until the end of the cut. To get a clean cut surface, proceed straight at a constant speed.

6. Finish cutting. After finishing cutting, release finger from the switch (15) to turn it off, and lift the tool after the saw blade (9) has completely stopped rotating.

REMOVING DUST (Fig. 33)

WARNING!

Before removing dust, make sure to turn off the switch and remove the battery pack from the main unit. Unintended starting may result in injury.

1. Dust and chips are discarded from the dust nozzle (21) of the safety cover (31), but in rare cases dust and chips may get stuck in the safety cover (31) depending on the type of material and cutting method. In this case, remove the dust box (6) and saw blade (9), and with the dust nozzle (21) and dust box clip (7) open, blow strong air or use a soft wire to remove stuck chips.

DUST BOX

WARNING!

- To prevent accidents, turn off the switch and remove the battery pack from the main unit during the following operations. Unintended starting may result in injury.
- Do not use the tool with the dust box clip open or detached. Doing so may result in injury.

When using as a dust collecting circular saw, attach the dust box (6). When the dust box (6) is removed, the tool can be used as a standard circular saw.

FOR USE AS A STANDARD CIRCULAR SAW (Figs. 34, 35) (REMOVING THE DUST BOX)

1. Hold down the release button (41), and remove the dust box (6) in the direction of the arrow.
2. Close the dust box clip (7).
- * Pull the dust box clip (7) lightly to make sure it is secured to the safety cover (31).

When the dust box clip (7) is secured to the safety cover (31), the tool can be used as a standard circular saw.

WHEN THE DUST BOX CLIP COMES OFF (Fig. 36)

When strong force is applied while the dust box clip (7) is open, the dust box clip (7) may come off. If it comes off, fit the convex part of the dust box clip (7) into the concave part of the safety cover (31).

FOR USE AS A DUST COLLECTING CIRCULAR SAW (Figs. 35, 37, 38) (ATTACHING THE DUST BOX)

1. Pull the lock (42) on the dust box clip (7) to unlock it and open in the direction of the arrow.
2. Align the concave part of the safety cover (31) with the convex part of the dust box (6) inside tip and insert.
 - * Use the line at the tip of the dust box (6) as a guide to position the convex.
3. Install the dust box (6) by pressing it downward.
 - * Pull the dust box (6) lightly to make sure it is secured to the main unit.
4. Close the dust box clip (7).
 - * When the dust box clip (7) will not close, the dust box (6) is not installed in the correct position. Remove and reinstall the dust box (6).
 - * Pull the dust box clip (7) lightly to make sure it is secured to the dust box (6).

When the dust box clip (7) is securely closed, the saw can be used as a dust collecting circular saw.

HOW TO REMOVE DUST (Figs. 34, 35, 39, 40)

WARNING!

When discarding dust, make sure to turn off the switch and remove the battery pack from the main unit. Unintended starting may result in injury.

CAUTION!

When used while the dust box is full of dust and chips, the dust collection rate will decrease and it will clog the safety cover. Discard dust and chips before the dust box is full. When discarding, make sure that dust and chips do not get into the motor and battery pack mounting area of the tool. Do not cut materials that are adhered with chemicals such as Thinner, Gasoline, Oil, etc. If chemicals such as thinner, gasoline, or oil adhere to the dust box, there is a risk of cracking, which may result in injury.

This tool is equipped with a dust box (6) to collect dust and chips. Please dispose the chips in the dust box frequently. Chips can be discarded while the dust box (6) is still attached to the main unit, but if you wish to remove the dust box and dispose of the chips, please follow the procedure below.

1. Hold down the release button (41), and remove the dust box (6) in the direction of the arrow.
2. Open the dust box cover (16) by pressing the hook (44) on the lower rear side of the dust box, and dispose of the dust with the rear side down.
3. After discarding dust and chips, close the dust box cover (16) and hang the hook (44).
4. Align the concave part of the safety cover (31) with the convex part of the dust box (6) inside tip and install the dust box (6) by pressing it downward.
 - * Use the line at the tip of the dust box (6) as a guide to position the convex.
 - * Pull the dust box (6) lightly to make sure it is secured to the main unit.

5. Close the dust box clip (7).

* When the dust box clip (7) will not close, the dust box (6) is not installed in the correct position. Remove and reinstall the dust box (6).

* Pull the dust box clip (7) lightly to make sure it is secured to the dust box (6).

ULTRA-HIGH MOLECULAR WEIGHT POLYETHYLENE SHEET (Fig. 41)

UHMW-PE sheet (39) is attached to the back of the base plate (13) to reduce sliding resistance during cutting and prevent damage to the work material.

(UHMW-PE sheet is a consumable product.)

- Partial peeling should be removed with a utility knife or similar tool.

- Sheets are made of soft material to avoid scratching the material.

After use, the edge may extend and overhang from the base plate (13) perimeter. The overhanging parts should be removed as it may cause the sheet to peel off.

- Replace the sheet in the following cases

- ① The sheet (39) was damaged and unsmooth

- ② The peeling progressed and started to snag

- ③ Scratches began to appear on the work material.

- When removing the UHMW-PE sheet (39), wipe clean and remove any residue (adhesive material of the sheet, etc.) from the backside of the base plate (13) before use.

* Wipe off any adhesive residue left after removing the sheet using alcohol or other solvent. Use of thinner, etc. may cause the paint to peel or resin parts such as the lower guard (4) to crack.

USE OF SAW GUIDE FENCE (Figs. 42, 43) (OPTIONAL)

Use of the saw guide fence (45) eliminates the necessity of drawing guide lines on the work piece.

Particularly useful when making many pieces of the same size. The cutting width can be easily established by setting the guide fence at the desired distance from the blade and tightening the wing bolt and turning the lock lever (46).

The saw guide fence (45) can be attached on either the right or left side of the base plate (13).

CAUTION!



The saw guide fence (45) should only touch the work piece slightly and should not be forced.

BATTERY PROTECTION (Fig. 2, Table 2)

This tool has a battery protection function (circuit control). The tool might stop working in the situation in the table below.

When the battery protection is working, the battery level indicator (17) will flash for 30 sec. when the switch is turned ON. Please inspect the tool and resolve the problem.

Table 2

Lamp indication	Situation	Measures
 3 lamps flashing in green.	The tool is overload.	Turn off the switch and remove the battery, then remove the cause of overload.
	The Tool and/or the battery overheated.	Turn off the switch and remove the battery,
	The temperature inside the battery is too low.	Remove the battery from the tool and wait for the battery to go back to room temperature. *DON'T HEAT THE TOOL
	Low battery	Remove the battery from the tool and recharge the battery.
	The battery was inserted with the switch turned ON.	Turn the switch off and on again
 Both sides of lamps flashing in green.	Some problem occurred on the battery.	Turn off the switch and replace the battery or contact Authorized Service Center.

STORING THE TOOL

Store the tool in a dry place that does not get too hot. Avoid places which can be reached by children or from where the tool may fall.

Pay attention to the following when storing the battery pack for an extended period of time.

- a. Store lithium ion batteries when they are charged.
- b. Recharge the stored battery pack every 6 months.
- c. Avoid high temperatures. Do not store for an extended period of time in places that are 45°C or hotter.
- d. Do not store in places that are -20°C or colder.
- e. Do not store in places that are near to heat sources or places that are subject to direct sunlight.
- f. Do not store in places which have large changes in temperature and may have condensation.
- g. Do not store in humid places.
- h. Do not allow it come in contact with water.
- i. Store in a dry place.
- j. Do not subject it to large vibrations or allow it to fall when moving it.
- k. In order to avoid short circuits, do not allow it come in contact with metal objects.
- l. Before storing the battery pack, remove it from the charger.

MAINTENANCE

After use, check the tool to make sure that it is in top condition.

It is recommended that you take this tool to an Authorized Service Center for a thorough cleaning and lubrication at least once a year.

DO NOT MAKE ANY ADJUSTMENTS WHILE THE MOTOR IS IN MOTION.

ALWAYS REMOVE THE BATTERY FROM THE TOOL BEFORE CHANGING REMOVABLE OR EXPENDABLE PARTS (BIT...ETC.), LUBRICATING OR WORKING ON THE UNIT.

WARNING!

To ensure safety and reliability, all repairs should be performed by an **AUTHORIZED SERVICE CENTER** or other **QUALIFIED SERVICE ORGANIZATION**.

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.



WARNING To reduce the risk of injury, user must read instruction manual "



WARNING Always wear eye protection"

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NOTE
