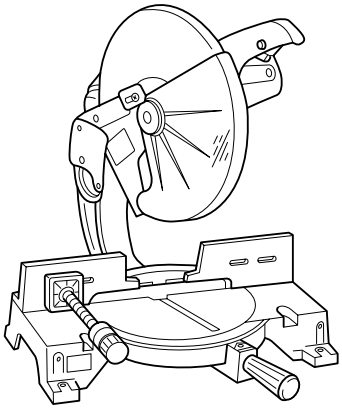
ENGLISH

Miter Saw

MODEL LS1440



002146

DOUBLE INSULATION

I N S T R U C T I O N M A N U A L

⚠ **WARNING:**
For your personal safety, READ and UNDERSTAND before using.
SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

SPECIFICATIONS

Blade diameter..... 355 mm
Hole diameter..... 25 mm and 25.4 mm
Max. Miter angle ..... Left 45° , Right 45°
Max. Cutting capacities (H x W)

Miter angle	
0°	45° (left and right)
122 mm x 152 mm	122 mm x 115 mm

No load speed (min^{-1}) 3,200
Dimensions (L x W x H) ..... 530 mm x 596 mm x 610 mm
Net weight ..... 34 kg
Safety class..... ⧈ /II

- Due to our continuing programme of research and development, the specifications herein are subject to change without notice.
- Note: Specifications may differ from country to country.

SYMBOLS END201-1

The following show the symbols used for the tool. Be sure that you understand their meaning before use.

 .....Read instruction manual.

 .....DOUBLE INSULATION

Intended use

The tool is intended for accurate straight and miter cutting in wood. With appropriate saw blades, aluminum can also be sawed.

Power supply

The tool should be connected only to a power supply of the same voltage as indicated on the nameplate, and can only be operated on single-phase AC supply. They are double-insulated in accordance with European Standard and can, therefore, also be used from sockets without earth wire.

GENERAL SAFETY RULES

GEA001-3

⚠ **WARNING:**

Read all instructions. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury. The term “power tool” in all of the warnings listed below refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

SAVE THESE INSTRUCTIONS

Work area safety

1. **Keep work area clean and well lit.** Cluttered and dark areas invite accidents.
2. **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.
3. **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

Electrical safety

4. **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.
5. **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.
6. **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
7. **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.
8. **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.

Personal safety

9. **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.
10. **Use safety equipment. Always wear eye protection.** Safety equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
11. **Avoid accidental starting. Ensure the switch is in the off-position before plugging in.** Carrying power tools with your finger on the switch or plugging in power tools that have the switch on invites accidents.
12. **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.
13. **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
14. **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.
15. **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of these devices can reduce dust-related hazards.

Power tool use and care

16. **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.
17. **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.
18. **Disconnect the plug from the power source and/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.

19. **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.
20. **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.
21. **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
22. **Use the power tool, accessories and tool bits etc. in accordance with these instructions and in the manner intended for the particular type of power tool, 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.

Service

23. **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.
24. **Follow instruction for lubricating and changing accessories.**
25. **Keep handles dry, clean and free from oil and grease.**

ADDITIONAL SAFETY RULES FOR TOOL

ENB040-3

1. **Wear eye protection.**
2. **Keep hands out of path of saw blade.** Avoid contact with any coasting blade. It can still cause severe injury.
3. **Do not operate saw without guards in place. Check blade guard for proper closing before each use. Do not operate saw if blade guard does not move freely and close instantly. Never clamp or tie the blade guard into the open position.**
4. **Do not perform any operation freehand.** The workpiece must be secured firmly against the turn base and guide fence with the vise during all operations. Never use your hand to secure the workpiece.
5. **Never reach around saw blade.**
6. **Turn off tool and wait for saw blade to stop before moving workpiece or changing settings.**
7. **Unplug tool before changing blade or servicing.**
8. Don't use the tool in the presence of flammable liquids or gases.
9. Check the blade carefully for cracks or damage before operation.
   Replace cracked or damaged blade immediately.
10. Use only flanges specified for this tool.
11. Be careful not to damage the arbor, flanges (especially the installing surface) or bolt. Damage to these parts could result in blade breakage.
12. Make sure that the turn base is properly secured so it will not move during operation.
13. For your safety, remove the chips, small pieces, etc. from the table top before operation.
14. Avoid cutting nails. Inspect for and remove all nails from the workpiece before operation.
15. Make sure the shaft lock is released before the switch is turned on.
16. Be sure that the blade does not contact the turn base in the lowest position.
17. Hold the handle firmly. Be aware that the saw moves up or down slightly during start-up and stopping.
18. Make sure the blade is not contacting the workpiece before the switch is turned on.
19. Before using the tool on an actual workpiece, let it run for a while. Watch for vibration or wobbling that could indicate poor installation or a poorly balanced blade.
20. Wait until the blade attains full speed before cutting.
21. Stop operation immediately if you notice anything abnormal.
22. Do not attempt to lock the trigger in the on position.
23. Be alert at all times, especially during repetitive, monotonous operations. Don't be lulled into a false sense of security. Blades are extremely unforgiving.
24. Always use accessories recommended in this manual. Use of improper accessories such as abrasive wheels may cause an injury.
25. **Do not use the saw to cut other than aluminum, wood or similar materials.**
26. **Connect miter saws to a dust collecting device when sawing.**

27. **Select saw blades in relation to the material to be cut.**
28. **Take care when slotting.**
29. **Replace the kerf board when worn.**
30. **Do not use saw blades manufactured from high speed steel.**
31. **Some dust created from operation contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:**
    - **lead from lead-based-painted material**
    - **arsenic and chromium from chemically-treated lumber.**

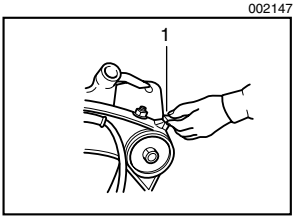
    Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.
32. **To reduce the emitted noise, always be sure that the blade is sharp and clean.**
33. **The operator is adequately trained in the use, adjustment and operation of the machine.**
34. **Use correctly sharpened saw blades. Observe the maximum speed marked on the saw blade.**
35. **Refrain from removing any cut-offs or other parts of the workpiece from the cutting area whilst the machine is running and the saw head is not in the rest position.**

SAVE THESE INSTRUCTIONS

INSTALLATION

Bench mounting

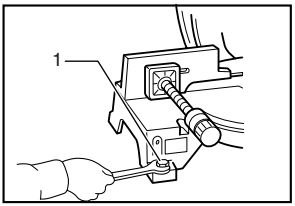
002147



1. Handle latch

When the tool is shipped, the handle is locked in the lowered position by the handle latch. Release the handle latch by lowering the handle slightly and turn the handle latch to the released position.

003638



1. Bolt

This tool should be bolted with four bolts to a level and stable surface using the bolt holes provided in the tool's base. This will help prevent tipping and possible injury.

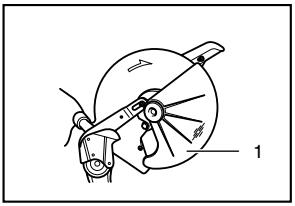
FUNCTIONAL DESCRIPTION

⚠ **CAUTION:**

- Always be sure that the tool is switched off and unplugged before adjusting or checking function on the tool.

Blade guard

002149



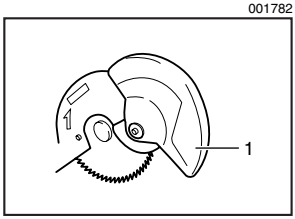
1. Blade guard

When lowering the handle, the blade guard rises automatically. The guard is spring loaded so it returns to its original position when the cut is completed and the handle is raised. NEVER DEFEAT OR REMOVE THE BLADE GUARD OR THE SPRING WHICH ATTACHES TO THE GUARD.

In the interest of your personal safety, always maintain the blade guard in good condition. Any irregular operation of the blade guard should be corrected immediately. Check to assure spring loaded return action of guard. NEVER USE THE TOOL IF THE BLADE GUARD OR SPRING ARE DAMAGED, FAULTY OR REMOVED. DOING SO IS HIGHLY DANGEROUS AND CAN CAUSE SERIOUS PERSONAL INJURY.

If the see-through blade guard becomes dirty, or sawdust adheres to it in such a way that the blade is no longer easily visible, unplug the saw and clean the guard carefully with a damp cloth. Do not use solvents or any petroleum-based cleaners on the plastic guard.

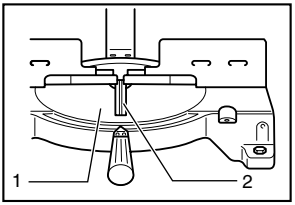
001782



1. Blade guard

If the blade guard is especially dirty and vision through the guard is impaired, use the supplied socket wrench to loosen the hex bolt holding the center cover. Loosen the hex bolt by turning it counterclockwise and raise the blade guard and center cover. With the blade guard so positioned, cleaning can be more completely and efficiently accomplished. When cleaning is complete, reverse procedure above and secure bolt. Do not remove spring holding blade guard. If guard becomes discolored through age or UV light exposure, contact a Makita service center for a new guard. DO NOT DEFEAT OR REMOVE GUARD.

002150

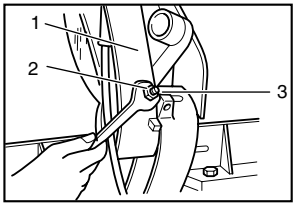


1. Turn base
2. Kerf board

Kerf board

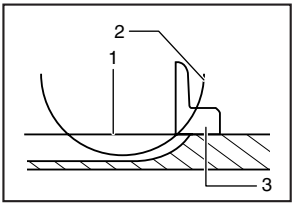
This tool is provided with the kerf board in the turn base to minimize tearing on the exit side of a cut. If the kerf groove has not yet been cut in the kerf board by the factory, you should cut the groove before actually using the tool to cut a workpiece. Switch on the tool and lower the blade gently to cut a groove in the kerf board.

002151



1. Gear housing
2. Hex nut
3. Adjusting bolt

001540



1. Top surface of turn base
2. Periphery of blade
3. Guide fence

Maintaining maximum cutting capacity

This tool is factory adjusted to provide the maximum cutting capacity for a 355 mm saw blade.

When installing a new blade, always check the lower limit position of the blade and if necessary, adjust it as follows:

First, unplug the tool. Lower the handle completely. Loosen the hex nut at the rear of the gear housing. Use a screwdriver to turn the adjusting bolt until the periphery of the blade extends slightly below the top surface of the turn base at the point where the front face of the guide fence meets the top surface of the turn base.

With the tool unplugged, rotate the blade by hand while holding the handle all the way down to be sure that the blade does not contact any part of the lower base. Re-adjust slightly, if necessary.

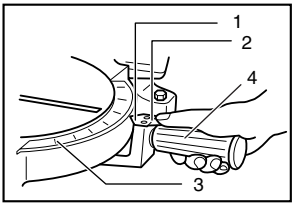
After adjusting, tighten the hex nut with the wrench while carefully holding the adjusting bolt in position with the screwdriver.

At this time, make sure that the handle can be locked in the lowered position by turning the handle latch. If the handle cannot be locked so, turn the adjusting bolt so that the handle can be locked in the lowered position.

⚠ **CAUTION:**

- After installing a new blade, always be sure that the blade does not contact any part of the lower base when the handle is lowered completely. Always do this with the tool unplugged.

002152



1. Pointer
2. Lock lever
3. Miter scale
4. Grip

Adjusting the miter angle

Loosen the grip by turning counterclockwise. Turn the turn base while pressing down the lock lever. When you have moved the grip to the position where the pointer points to the desired angle on the miter scale, securely tighten the grip clockwise.

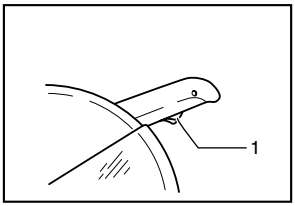
⚠ **CAUTION:**

- When turning the turn base, be sure to raise the handle fully.
- After changing the miter angle, always secure the turn base by tightening the grip firmly.

Fence plate

The fence plate is designed to prevent smaller cutting scraps from jamming inside the blade case. The fence plate moves right or left automatically as the turn base is rotated.

003639



1. Switch trigger

Switch action

⚠ **CAUTION:**

- Before plugging in the tool, always check to see that the switch trigger actuates properly and returns to the “OFF” position when released.

To start the tool, simply pull the switch trigger. Release the switch trigger to stop.

⚠ **WARNING:**

- NEVER use tool without a fully operative switch trigger. Any tool with an inoperative switch is HIGHLY DANGEROUS and must be repaired before further usage.

ASSEMBLY

⚠ **CAUTION:**

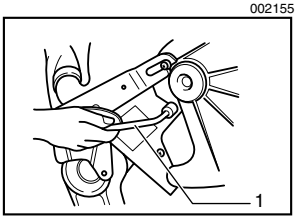
- Always be sure that the tool is switched off and unplugged before carrying out any work on the tool.

Installing or removing saw blade

⚠ **CAUTION:**

- Always be sure that the tool is switched off and unplugged before installing or removing the blade.
- Use only the Makita socket wrench provided to install or remove the blade. Failure to do so may result in overtightening or insufficient tightening of the hex bolt. This could cause an injury.

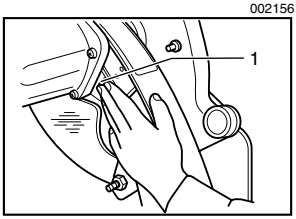
002155



1. Socket wrench

To remove the blade, use the socket wrench to loosen the hex bolt holding the center cover by turning it counterclockwise. Raise the blade guard and center cover.

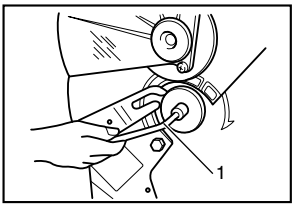
002156



1. Shaft lock

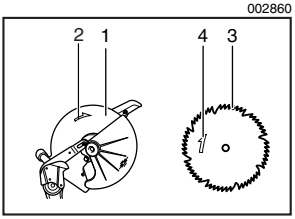
Press the shaft lock to lock the spindle and use the socket wrench to loosen the hex bolt counterclockwise. Then remove the hex bolt, outer flange and blade.

002243



1. Socket wrench

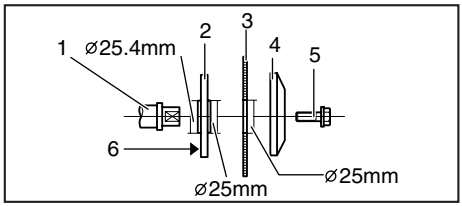
002860



1. Blade case
2. Arrow
3. Saw blade
4. Arrow

To install the blade, mount it carefully onto the spindle, making sure that the direction of the arrow on the surface of the blade matches the direction of the arrow on the blade case. Install the outer flange and hex bolt, and then use the socket wrench to tighten the hex bolt securely clockwise while pressing the shaft lock.

002154

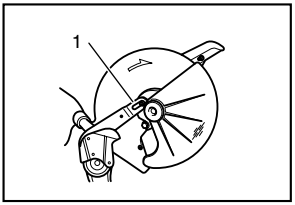


1. Spindle
2. Inner flange
3. Blade
4. Outer flange
5. Hex bolt
6. 25.4mm marking

⚠ **CAUTION:**

- The inner flange has a 25 mm diameter on one side and a 25.4 mm diameter on the other. The side with 25.4 mm diameter is marked by “25.4”. Use the correct side for the hole diameter of the blade you intend to use. Mounting the blade on the wrong side can result in dangerous vibration.

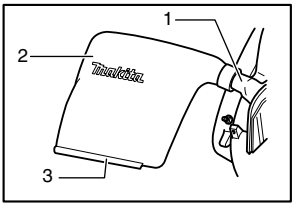
002264



1. Pin

Slip the pin on the blade guard into the slot in the guide arm while returning the blade guard to its original fully closed position. Then tighten the hex bolt clockwise to secure the center cover. Lower the handle to make sure that the blade guard moves properly. Make sure shaft lock has released spindle before making cut.

002157



1. Dust nozzle
2. Dust bug
3. Fastener

Dust bag

The use of the dust bag makes cutting operations clean and dust collection easy. To attach the dust bag, fit it onto the dust nozzle.

When the dust bag is about half full, remove the dust bag from the tool and pull the fastener out. Empty the dust bag of its contents, tapping it lightly so as to remove particles adhering to the insides which might hamper further collection.

NOTE:

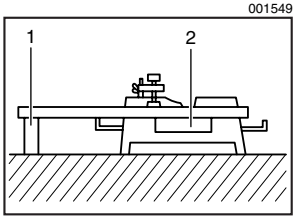
If you connect a Makita vacuum cleaner to your saw, more efficient and cleaner operations can be performed.

Securing workpiece

⚠ **WARNING:**

- It is extremely important to always secure the workpiece properly and tightly with the vise. Failure to do so can cause the tool to be damaged and/or the workpiece to be destroyed. PERSONAL INJURY MAY ALSO RESULT. Also, after a cutting operation, DO NOT raise the blade until the blade has come to a complete stop.

001549

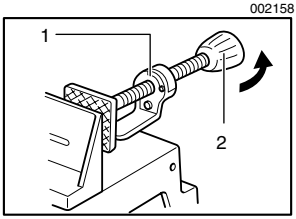


1. Support
2. Turn base

⚠ **CAUTION:**

- When cutting long workpieces, use supports that are as high as the top surface level of the turn base. Do not rely solely on the vertical vise and/or horizontal vise to secure the workpiece.
  Thin material tends to sag. Support workpiece over its entire length to avoid blade pinch and possible KICKBACK.

002158



1. Projection
2. Vise knob

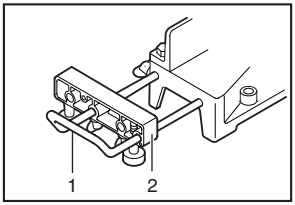
Horizontal vise (Accessory)

The horizontal vise can be installed on either the left or right side of the base. When performing 15° or greater miter cuts, install the horizontal vise on the side opposite the direction in which the turn base is to be turned. By turning the vise knob counterclockwise, the screw is released and the vise shaft can be moved rapidly in and out. By turning the vise knob clockwise, the screw remains secured. To grip the workpiece, turn the vise knob gently clockwise until the projection reaches its topmost position, then fasten securely. If the vise knob is forced in or pulled out while being turned clockwise, the projection may stop at an angle. In this case, turn the vise knob back counterclockwise until the screw is released, before turning again gently clockwise.

⚠ **CAUTION:**

- Grip the workpiece only when the projection is at the topmost position. Failure to do so may result in insufficient securing of the workpiece. This could cause the workpiece to be thrown, cause damage to the blade or cause the loss of control, which can result in PERSONAL INJURY.

001809

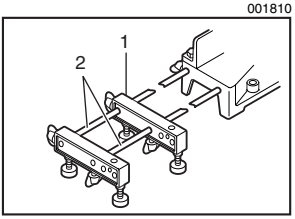


1. Holder
2. Holder assembly

Holders and holder assembly (optional accessories)

The holders and the holder assembly can be installed on either side as a convenient means of supporting workpieces horizontally. Install them as shown in the figure. Then tighten the screws firmly to secure the holders and the holder assembly.

001810



1. Holder assembly
2. Rod 12

When cutting long workpieces, use the holder-rod assembly (optional accessory). It consists of two holder assemblies and two rods 12.

⚠ **CAUTION:**

- Always support long workpieces level with the top surface of the turn base for accurate cuts and to prevent dangerous loss of control of the tool.

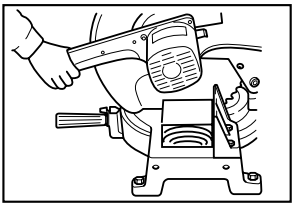
OPERATION

⚠ **CAUTION:**

- Before use, be sure to release the handle from the lowered position by turning the handle latch to the released position.
- Make sure the blade is not contacting the workpiece, etc. before the switch is turned on.
- Do not apply excessive pressure on the handle when cutting. Too much force may result in overload of the motor and/or decreased cutting efficiency. Push down handle with only as much force as is necessary for smooth cutting and without significant decrease in blade speed.
- Gently press down the handle to perform the cut. If the handle is pressed down with force or if lateral force is applied, the blade will vibrate and

leave a mark (saw mark) in the workpiece and the precision of the cut will be impaired.

002159



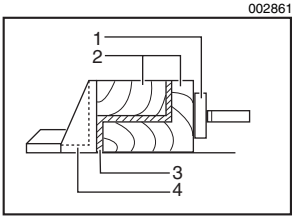
1. Press cutting

Secure the workpiece with the vise. Switch on the tool without the blade making any contact and wait until the blade attains full speed before lowering. Then gently lower the handle to the fully lowered position to cut the workpiece. When the cut is completed, switch off the tool and WAIT UNTIL THE BLADE HAS COME TO A COMPLETE STOP before returning the blade to its fully elevated position.

2. Miter cutting

Refer to the previously covered “Adjusting the miter angle”.

002861



1. Horizontal vise
2. Spacer block
3. Aluminum extrusion
4. Guide fence

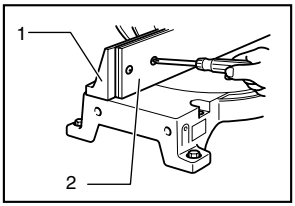
3. Cutting aluminum extrusion

When securing aluminum extrusions, use spacer blocks or pieces of scrap as shown in the figure to prevent deformation of the aluminum. Use a cutting lubricant when cutting the aluminum extrusion to prevent build-up of the aluminum material on the blade.

⚠ **CAUTION:**

- Never attempt to cut thick or round aluminum extrusions. Thick aluminum extrusions may come loose during operation and round aluminum extrusions cannot be secured firmly with this tool.

002160



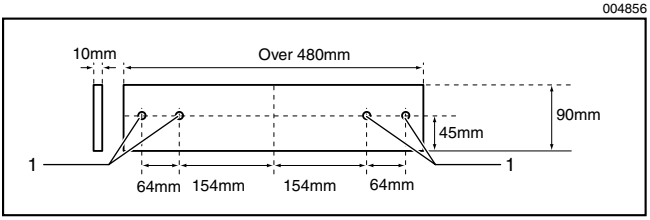
1. Guide fence
2. Wood facing

4. Wood facing

Use of wood facing helps to assure splinter-free cuts in workpieces. Attach a wood facing to the guide fence using the holes in the guide fence.

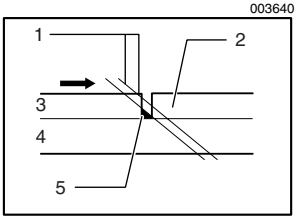
See the figure concerning the dimensions for a suggested wood facing.

004856



1. Hole

003640



1. Blade
2. Wood facing
3. Wood facing
4. Workpiece
5. There should be no gap between the blade, the wood facing and the workpiece

After changing the miter angle, cut the wood facing at that selected angle. If there is a gap between the blade, the wood facing and the workpiece, move the wood facing slightly in the direction of the arrow and cut it again.

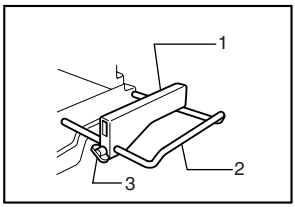
⚠ **CAUTION:**

- Use straight wood of even thickness as the wood facing.
- Use screws to attach the wood facing to the guide fence. The screws should be installed so that the screw heads are below the surface of the wood facing.
- When the wood facing is attached, do not turn the turn base with the handle lowered. The blade and/or the wood facing will be damaged.

NOTE:

- When the wood facing is attached, the maximum cutting capacities in width will be reduced by thickness of the wood facing.

001846



1. Set plate
2. Holder
3. Screw

5. Cutting repetitive lengths

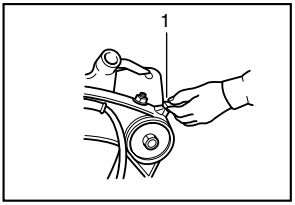
When cutting several pieces of stock to the same length, ranging from 300 mm to 400 mm, use of the set plate (optional accessory) will facilitate more efficient operation. Install the set plate on the holder (optional accessory) as shown in the figure.

Align the cutting line on your workpiece with either the left or right side of the groove in the kerf board, and while holding the workpiece from moving, move the set plate flush against the end of the workpiece. Then secure the set plate with the screw. When the set plate is not used, loosen the screw and turn the set plate out of the way.

NOTE:

- Use of the holder-rod assembly (optional accessory) allows cutting repetitive lengths up to 2,200 mm approximately.

002147

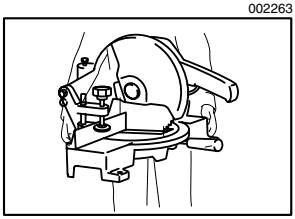


1. Handle latch

Carrying tool

Make sure that the tool is unplugged. Secure the turn base at right miter angle fully by means of the grip. Lower the handle fully and lock it in the lowered position by turning the handle latch to the locked position.

002263



Carry the tool by holding both sides of the tool base as shown in the figure. If you remove the holders, dust bag, etc., you can carry the tool more easily.

⚠ **CAUTION:**

- Always secure all moving portions before carrying the tool.
- Handle latch is for carrying and storage purposes only and not for any cutting operations.

MAINTENANCE

⚠ **CAUTION:**

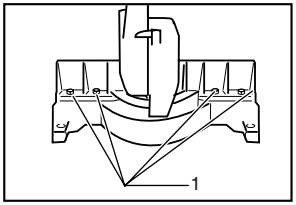
- Always be sure that the tool is switched off and unplugged before attempting to perform inspection or maintenance.

⚠ **WARNING:**

- Always be sure that the blade is sharp and clean for the best and safest performance.

Adjusting the cutting angle

002162

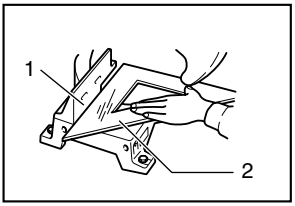


1. Hex bolt

This tool is carefully adjusted and aligned at the factory, but rough handling may have affected the alignment. If your tool is not aligned properly, perform the following:

Loosen the grip which secures the turn base. Turn the turn base so that the pointer points to 0° on the miter scale. Then turn the turn base slightly clockwise and counterclockwise to seat the turn base in the 0° miter notch. (Leave as it is if the pointer does not point to 0°.) Loosen the hex bolts securing the guide fence using the socket wrench.

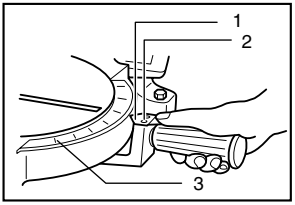
002163



1. Guide fence
2. Triangular rule

Lower the handle fully and lock it in the lowered position by turning the handle latch to the locked position. Square the side of the blade with the face of the guide fence using a triangular rule, try-square, etc. Then securely tighten the hex bolts on the guide fence in the order from the right side.

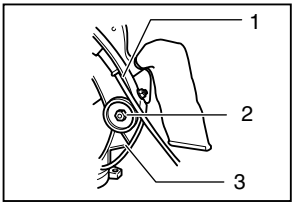
002265



1. Pointer
2. Screws
3. Miter scale

Make sure that the pointer on the indication plate points to 0° on the miter scale. If the pointer does not point to 0°, loosen the screws which secure the indication plate and adjust it so that the pointer will point to 0°.

002161

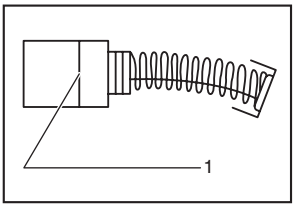


1. Gear housing
2. Hex lock nut
3. Arm

Adjusting for smooth handle action

The hex lock nut which holds the gear housing and the arm has been factory adjusted to assure smooth handle action up and down and to guarantee precise cutting. Do not tamper with it. Should looseness develop at the gear housing and arm connection, perform the following adjustment. Work the handle up and down while tightening the hex lock nut; the best position to tighten the hex lock nut is just before the motor body weight is obvious.
After adjusting the hex lock nut, be sure that the handle returns automatically to the initial, raised position from any position. If the hex lock nut is too loose, the cutting accuracy will be affected; if it is too tight, it will be hard to work the handle up and down. Note that this is a self locking nut. It is a special type that does not loosen in normal use. It should not be overtightened or replaced with other types of nuts.

001145

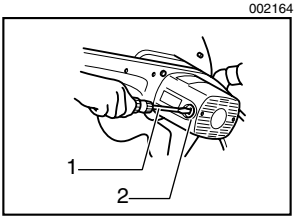


1. Limit mark

Replacing carbon brushes

Remove and check the carbon brushes regularly. Replace when they wear down to the limit mark. Keep the carbon brushes clean and free to slip in the holders. Both carbon brushes should be replaced at the same time. Use only identical carbon brushes.

002164



1. Screwdriver
2. Brush holder cap

Use a screwdriver to remove the brush holder caps. Take out the worn carbon brushes, insert the new ones and secure the brush holder caps.

After use

- After use, wipe off chips and dust adhering to the tool with a cloth or the like. Keep the blade guard clean according to the directions in the previously covered “Blade guard”. Lubricate the sliding portions with tool oil to prevent rust.

To maintain product SAFETY and RELIABILITY, repairs, any other maintenance or adjustment should be performed by Makita Authorized Service Centers, always using Makita replacement parts.

ACCESSORIES

⚠ **CAUTION:**

- These accessories or attachments are recommended for use with your Makita tool specified in this manual. The use of any other accessories or attachments might present a risk of injury to persons. Only use accessory or attachment for its stated purpose.

If you need any assistance for more details regarding these accessories, ask your local Makita service center.

- Carbide-tipped saw blades
- Socket wrench 13
- Holder set
- Holder rod assembly
- Set plate
- Dust bag
- Triangular rule

Memo

Memo

Memo

Makita Corporation

883619D8