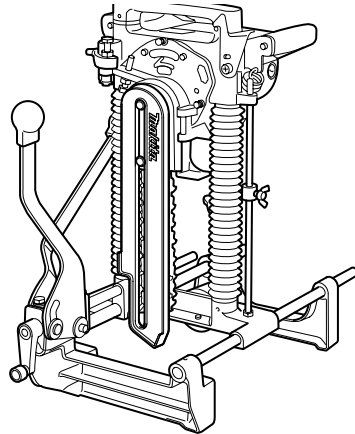




# Chain Mortiser

MODEL 7104L



006289

## INSTRUCTION MANUAL

**⚠ WARNING:**

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

# SPECIFICATIONS

|                                  |                                 |                          |
|----------------------------------|---------------------------------|--------------------------|
| Model                            |                                 | 7104L                    |
| Capacities                       | Max. hole length (Longitudinal) | 130 mm                   |
|                                  | Max. hole depth                 | 155 mm                   |
| Width of applicable workpiece    |                                 | 80 mm - 308 mm           |
| Chain speed (min <sup>-1</sup> ) |                                 | 300 m                    |
| Dimensions (L × W × H)           |                                 | 512 mm × 298 mm × 513 mm |
| Net weight                       |                                 | 17 kg                    |
| Safety class                     |                                 | Class I                  |

- 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

END001-1

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



.....Only for EU countries

Do not dispose of electric equipment together with household waste material!

In observance of European Directive 2002/96/EC on waste electric and electronic equipment and its implementation in accordance with national law, electric equipment that have reached the end of their life must be collected separately and returned to an environmentally compatible recycling facility.

## Intended use

The tool is intended for cutting mortise in wood.

## 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. This tool should be grounded while in use to protect the operator from electric shock. Use only three-wire extension cords which have three-prong grounding-type plugs and three-pole receptacles which accept the tool's plug.

## For European countries only

### Noise and Vibration

The typical A-weighted noise levels are  
 sound pressure level: 90 dB (A)  
 sound power level: 103 dB (A)

– Wear ear protection. –

The typical weighted root mean square acceleration value is not more than 2.5 m/s<sup>2</sup>.

These values have been obtained according to EN61029.

### CE-DECLARATION OF CONFORMITY

We declare under our sole responsibility that this product is in compliance with the following standards of standardized documents, EN61029, EN55014, EN61000 in accordance with Council Directives, 73/23/EEC, 89/336/EEC, 98/37/EC.

Yasuhiko Kanzaki **CE 2005**

Director

### MAKITA INTERNATIONAL EUROPE LTD.

Michigan Drive, Tongwell, Milton Keynes, Bucks MK15 8JD, ENGLAND

Responsible manufacturer:

Makita Corporation Anjo Aichi Japan

# SAFETY INSTRUCTIONS

ENA001-2

## **WARNING:**

**When using electric tools, basic safety precautions, including the following, should always be followed to reduce the risk of fire, electric shock and personal injury. Read all these instructions before operating this product and save these instructions.**

### **For safe operations:**

- 1. Keep work area clean.**  
Cluttered areas and benches invite injuries.
- 2. Consider work area environment.**  
Do not expose power tools to rain. Do not use power tools in damp or wet locations. Keep work area well lit. Do not use power tools where there is risk to cause fire or explosion.
- 3. Guard against electric shock.**  
Avoid body contact with earthed or grounded surfaces (e.g. pipes, radiators, ranges, refrigerators).
- 4. Keep children away.**  
Do not let visitors touch the tool or extension cord. All visitors should be kept away from work area.
- 5. Store idle tools.**  
When not in use, tools should be stored in a dry, high or locked up place, out of reach of children.
- 6. Do not force the tool.**  
It will do the job better and safer at the rate for which it was intended.
- 7. Use the right tool.**  
Do not force small tools or attachments to do the job of a heavy duty tool. Do not use tools for purposes not intended; for example, do not use circular saws to cut tree limbs or logs.
- 8. Dress properly.**  
Do not wear loose clothing or jewellery, they can be caught in moving parts. Rubber gloves and non-skid footwear are recommended when working outdoors. Wear protecting hair covering to contain long hair.
- 9. Use safety glasses and hearing protection.**  
Also use face or dust mask if the cutting operation is dusty.
- 10. Connect dust extraction equipment.**  
If devices are provided for the connection of dust extraction and collection facilities ensure these are connected and properly used.
- 11. Do not abuse the cord.**  
Never carry the tool by the cord or yank it to disconnect it from the socket. Keep the cord away from heat, oil and sharp edges.
- 12. Secure work.**  
Use clamps or a vice to hold the work. It is safer than using your hand and it frees both hands to operate the tool.
- 13. Do not overreach.**  
Keep proper footing and balance at all times.
- 14. Maintain tools with care.**  
Keep cutting tools sharp and clean for better and safer performance. Follow instructions for lubrication and changing accessories. Inspect tool cord periodically and if damaged have it repaired by an authorized service facility. Inspect extension cords periodically and replace, if damaged. Keep handles dry, clean and free from oil and grease.
- 15. Disconnect tools.**  
When not in use, before servicing and when changing accessories such as blades, bits and cutters.
- 16. Remove adjusting keys and wrenches.**  
Form the habit of checking to see that keys and adjusting wrenches are removed from the tool before turning it on.
- 17. Avoid unintentional starting.**  
Do not carry a plugged-in tool with a finger on the switch. Ensure switch is off when plugging in.
- 18. Use outdoor extension leads.**  
When tool is used outdoors, use only extension cords intended for outdoor use.
- 19. Stay alert.**  
Watch what you are doing. Use common sense. Do not operate tool when you are tired.
- 20. Check damaged parts.**  
Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, free running of moving parts, breakage of parts, mounting and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced by an authorized service center unless otherwise indicated in this instruction manual. Have defective switches replaced by an authorized service facility. Do not use the tool if the switch does not turn it on and off.
- 21. Warning.**  
The use of any accessory or attachment, other than those recommended in this instruction manual or the catalog, may present a risk of personal injury.
- 22. Have your tool repaired by a qualified person.**  
This electric tool is in accordance with the relevant safety requirements. Repairs should only be carried out by qualified persons using original spare parts, otherwise this may result in considerable danger to the user.

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# ADDITIONAL SAFETY RULES

ENB093-1

1. Use this tool only to cut holes in wood.
2. This tool is for cutting holes in flat-surfaced wood. Never use it for cutting holes in a log.
3. Wear ear protectors.
4. Handle the cutter chain carefully; it is very sharp.
5. Place the workpiece on wood blocks or short beams to prevent the cutter chain from hitting the ground, floor, etc., causing damage to the cutter chain at the time of hole breakthrough.
6. Check the cutter chain carefully for cracks or damage before operation. Replace cracked or damaged cutter chain immediately.
7. Secure the tool to the workpiece firmly.
8. Inspect for and remove nails or foreign matter from the workpiece before operation.
9. Do not operate the tool with the safety cover open.
10. Do not wear gloves during operation.
11. Keep hands away from moving parts.
12. Remove the tool from the workpiece after operation to keep it from falling off and possibly causing injury.
13. Don't abuse cord. Never yank cord to disconnect it from the receptacle. Keep cord away from heat, oil, water and sharp edges.
14. **PROPER GROUNDING.** This tool should be grounding while in use to protect the operator from electric shock.
15. **EXTENSION CORDS.** Use only three-wire extension cords which have three-prong grounding-type plugs and three-pole receptacles which accept the tool's plug. Replace or repair damaged or worn cord immediately.

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# SAVE THESE INSTRUCTIONS

## FUNCTIONAL DESCRIPTION

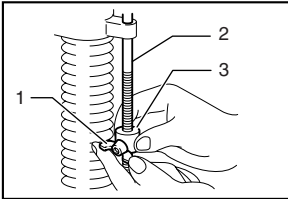
### ⚠ CAUTION:

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

### Adjusting depth of cut

Loosen the wing bolt on the stopper. Move the stopper to the desired position and tighten the wing bolt. When tightened, the tip of the wing bolts should contact the flat surface of the stopper pole. The numbers indicated on the stopper pole are in cm units (3 mm per graduation).

005999



1. Wing bolt
2. Stopper pole
3. Stopper

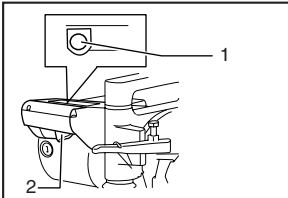
### Switch action

### ⚠ 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 prevent the switch trigger from being accidentally pulled, a lock-off button is provided. To start the tool, push in the lock-off button and pull the switch trigger. Release the switch trigger to stop.

006300



1. Lock-off button
2. Switch trigger

## ASSEMBLY

### ⚠ CAUTION:

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

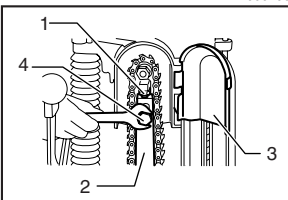
### Installing or removing cutter chain

### ⚠ WARNING:

- Always be sure that the tool is switched off and unplugged before installing or removing the cutter chain.
- Always close the chain cover after installing, removing or adjusting the cutter chain.

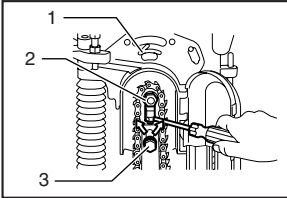
To install the cutter chain, open the chain cover. Loosen the hex bolt securing the chain bar and the adjusting screw.

006290



1. Adjusting screw
2. Chain bar
3. Chain cover
4. Hex bolt

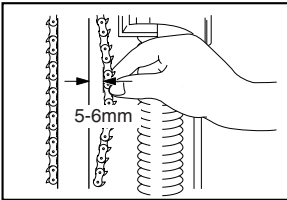
006291



1. Arrow
2. Sprocket
3. Hex bolt

Orient the cutters in the direction of the arrow on the tool (rotational direction). Attach the cutter chain to the sprocket first and then to the chain bar. Semi-tighten the hex bolt.

006003

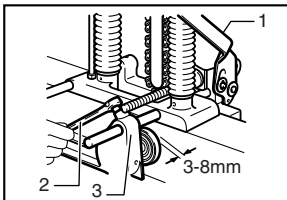


Turn the adjusting screw to increase the tension on the cutter chain. Pull the middle of the cutter chain lightly. When there is a clearance of approx. 5 - 6 mm between the chain bar and the cutter chain, the tension on the cutter chain is adequate.

After adjusting the tension, tighten the hex bolt firmly to secure the chain bar. Additionally tighten slightly the adjusting screw. Close the chain cover.

To remove the cutter chain, follow the installation procedures in reverse.

006004

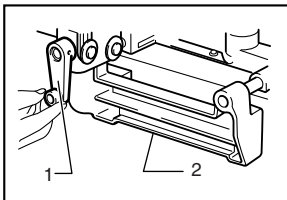


1. Lever (A)
2. Vise lever
3. Rear vise

### Securing tool to workpiece

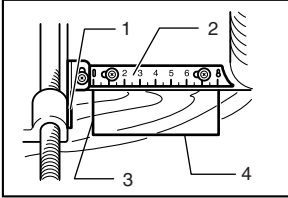
Loosen the vise lever and move the rear vise backward. Place the tool on the workpiece so that the front vise contacts the side of the workpiece. Move the rear vise forward until the distance between the rear vise and the workpiece is 3 - 8 mm. Tighten the vise lever to secure the rear vise. Move the tool so that the "0" on the indication plate is aligned with the cutting line (A). Push the lever (A) down fully to secure the workpiece.

006005



1. Setting handle
2. Front vise

006006

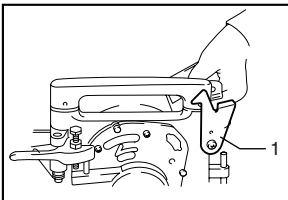


1. Indicator plate
2. Indication plate
3. Cutting line (A)
4. Cutting line (B)

Turn the setting handle until the front edge of the yellow indicator plate is aligned with the cutting line (B).

## OPERATION

006007



1. Hook

Grasp firmly the grips on either side. Switch on the tool and wait until the cutter chain attains full speed. Then release the hook and lower the tool head to cut in the workpiece. Do not apply excessive pressure to the tool. This may not only decrease the working efficiency but also cause a dangerous reaction. Feed slowly at the beginning of a cutting operation, at the time of hole breakthrough and when cutting a knot in the workpiece. After cutting, gently raise the tool head until you can hook the tool head back onto the hook. Then switch off the tool. Raise the lever (A) and remove the tool from the workpiece.

### ⚠ WARNING:

- Always hook the tool head back onto the hook when not operating the tool.
- Never attempt to cut a twisted or warped workpiece which the tool is not secured firmly to.

### Adjusting indicator plate and indication plate

The yellow indicator plate and indication plate are factory adjusted for the standard equipped cutter chain 16.5 mm. If the alignment is off, for some reason, or when using another size cutter chain, loosen the screws and adjust the yellow indicator plate and indication plate.

### Enlarging hole

#### 1. Transverse (width) enlargement

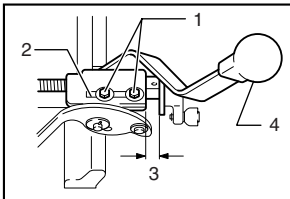
A hole can be enlarged transversely by adjusting the gauge plate. Max. expansion of hole width is 15 mm.

#### Example:

When cutting a hole 25 mm wide using a cutter chain 16.5 mm, proceed as follows:

- Push the lever (B) away from you. Loosen the hex bolts securing the gauge plate.
- Adjust the gauge plate so that the travel distance (D) is 8.5 mm; that is,  $25 \text{ mm} - 16.5 \text{ mm} = 8.5 \text{ mm}$ . Tighten the hex bolts to secure the gauge plate.
- Cut the first hole with the lever (B) pushed away from you. Then pull the lever (B) toward you and cut again to enlarge the hole.

006008



1. Hex bolts
2. Gauge plate
3. Travel distance (D)
4. Lever (B)

### NOTE:

- The gauge plate is factory adjusted for cutting a hole 30 mm wide.

## 2. Longitudinal (length) enlargement

Hole length can be determined in three steps shown in the table below.

C00239

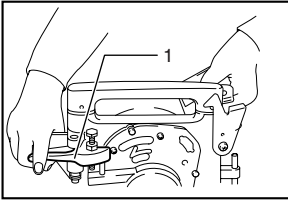
| Cutter chain position | Hole length to be cut |
|-----------------------|-----------------------|
| Original position     | 52.5 mm               |
| No.1 set position     | 52.5 mm - 105 mm      |
| No.2 set position     | 77.5 mm - 130 mm      |

### NOTE:

- A hole a little longer than predetermined may be cut depending upon the cutter chain tension.
- The adjusting hex bolts are factory adjusted for cutting holes 90 mm long in the No.1 set position and 120 mm long in the No.2 set position.

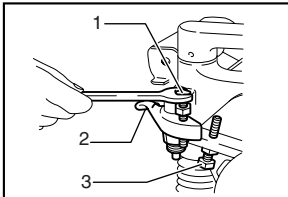
Push down the right-hand grip while raising the left-hand grip. Make sure that the adjusting hex bolt slips into place securely.

006009



1. Lever (C)

006010



1. Adjusting hex bolt for No. 1 set position
2. Lever (C)
3. Adjusting hex bolt for No. 2 set position

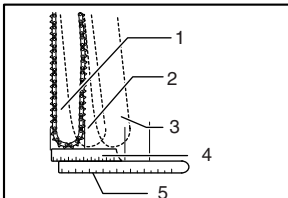
Loosen the hex nut securing the adjusting hex bolt. Turn the adjusting hex bolt until the cutter chain reaches the desired position, then tighten the hex nut.

### ⚠ WARNING:

- When using pressure to turn the adjusting hex bolt or hex nut, be careful not to allow the adjusting hex bolt to slip off the set position.

To bring the cutter chain back to the perpendicular (original) position, pull the lever (C) toward you while pressing down on the right-hand grip and slightly raising the left-hand grip and move the cutter chain back to its original position.

006011

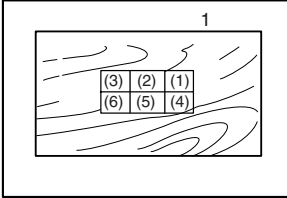


1. Original position
2. No.1 set position
3. No.2 set position
4. Indication plate
5. Ruler

When cutting a hole, first use the perpendicular position, then No.1 set position and finally No.2 set position. Always safely hook the tool head back onto the hook when changing the cutter chain position.



006012



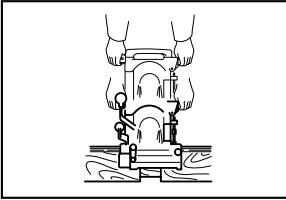
1. Front vise

When enlarging a hole both transversely and longitudinally, cut the holes in the order indicated from No.(1) to (6) as shown. This makes for more easy and efficient hole enlargement.

**⚠ WARNING:**

- Never attempt to enlarge a hole with the cutter chain still within the hole. This will cause unstable and dangerous operation.
- Never angle the cutter chain when cutting the first hole, or a dangerous kickback may result. Always have the cutter chain set to the perpendicular position when cutting the first hole.

006013



Lap joints up to 130 mm can be cut with this tool.

**NOTE:**

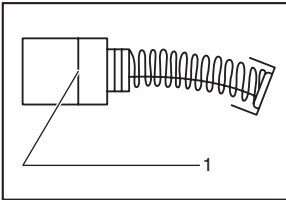
- Lap joints can be cut only on the front (side away from you) of the workpiece.

## MAINTENANCE

**⚠ CAUTION:**

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

001145

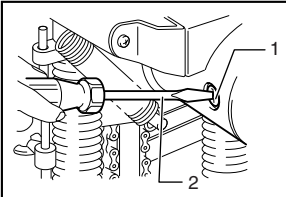


1. Limit mark

### 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.

006014



1. Brush holder cap
2. Screwdriver

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.

### Lubrication

After use, remove dirt, chips and foreign matter adhering to the tool. Then oil the moving parts (especially cutter chain) and the contact portions.

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.

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## 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.

- Cutter chain
- Chain bar for 30 mm
- Sprocket 4 for 30 mm
- Oil supply (100 cc)

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# Memo

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Makita Corporation Anjo, Aichi, Japan