

# XP SERIES

# LTR20VC

# LUMBER JACK

## ORIGINAL Manual Trim Router



### ⚠ WARNING

Read this manual before using this product.  
Failure to do so can result in serious injury.

SAVE THIS MANUAL.



## SPECIFICATIONS

<b>Model:</b>	<b>LTR20VC</b>
<b>Collet chuck capacity</b>	<b>1/4",3/8"</b>
<b>No load speed</b>	<b>10,000 - 30,000 RPM</b>
<b>Overall length</b>	<b>226 mm</b>
<b>Rated voltage</b>	<b>20V</b>

## SAFETY WARNINGS

### Important safety instructions for battery cartridge

1. Before using battery cartridge, read all instructions and cautionary markings on (1) battery charger, (2) battery, and (3) product using battery.
2. Do not disassemble battery cartridge.
3. If operating time has become excessively shorter, stop operating immediately. It may result in a risk of overheating, possible burns and even an explosion. If electrolyte gets into your eyes, rinse them out with clear water and seek medical attention right away. It may result in loss of your eyesight.
4. Do not short the battery cartridge:
  - (1) Do not touch the terminals with any conductive material.
  - (2) Avoid storing battery cartridge in a container with other metal objects such as nails, coins, etc.
  - (3) Do not expose battery cartridge to water or rain. A battery short can cause a large current flow, overheating, possible burns and even a breakdown.
5. Do not store the tool and battery cartridge in locations where the temperature may reach or exceed 50 °C (122 °F).
6. Do not incinerate the battery cartridge even if it is severely damaged or is completely worn out. The battery cartridge can explode in a fire.
7. Be careful not to drop or strike battery.
8. Do not use a damaged battery.
9. The contained lithium-ion batteries are subject to the Dangerous Goods Legislation requirements. For commercial transports e.g. by third parties, forwarding agents, special requirement on packaging and labeling must be observed. For preparation of the item being shipped, consulting an expert for hazardous material is required. Please also observe possibly more detailed national regulations. Tape or mask off open contacts and pack up the battery in such a manner that it cannot move around in the packaging.
10. Follow your local regulations relating to disposal of battery.

## Tips for maintaining maximum battery life

1. Charge the battery cartridge before completely discharged. Always stop tool operation and charge the battery cartridge when you notice less tool power.
2. Never recharge a fully charged battery cartridge. Overcharging shortens the battery service life.
3. Charge the battery cartridge with room temperature at 10 °C - 40 °C (50 °F - 104 °F). Let a hot battery cartridge cool down before charging it.
4. Charge the battery cartridge if you do not use it for a long period (more than six months).

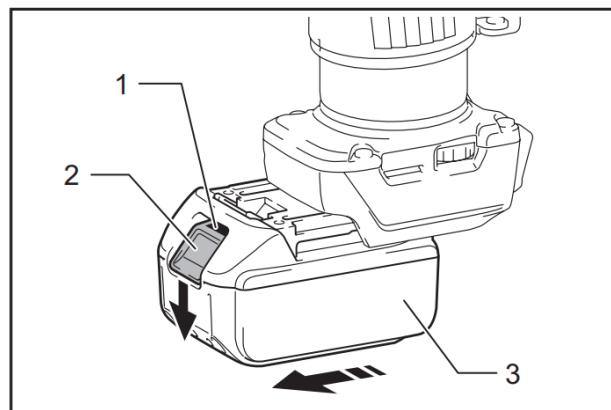
## FUNCTIONAL

**CAUTION:** Always be sure that the tool is switched off and the battery cartridge is removed before adjusting or checking function on the tool.

### Installing or removing battery cartridge

**CAUTION:** Always switch off the tool before installing or removing of the battery cartridge.

**CAUTION:** Hold the tool and the battery cartridge firmly when installing or removing battery cartridge. Failure to hold the tool and the battery cartridge firmly may cause them to slip off your hands and result in damage to the tool and battery cartridge and a personal injury.



► 1. Red indicator 2. Button 3. Battery cartridge

To remove the battery cartridge, slide it from the tool while sliding the button on the front of the cartridge.

To install the battery cartridge, align the tongue on the battery cartridge with the groove in the housing and slip it into place. Insert it all the way until it locks in place with a little click. If you can see the red indicator on the upper side of the button, it is not locked completely.

**CAUTION:** Always install the battery cartridge fully until the red indicator cannot be seen. If not, it may accidentally fallout of the tool, causing injury to you or someone around you.

**CAUTION:** Do not install the battery cartridge forcibly. If the cartridge does not slide in easily, it is not being inserted correctly.

## Tool / battery protection system

The tool is equipped with a tool/battery protection system. This system automatically cuts off power to the motor to extend tool and battery life. The tool will automatically stop during operation if the tool or battery is placed under one of the following conditions:

### Overload protection

When the battery is operated in a manner that causes it to draw an abnormally high current, the tool automatically stops without any indication. In this situation, turn the tool off and stop the application that caused the tool to become overloaded. Then turn the tool on to restart.

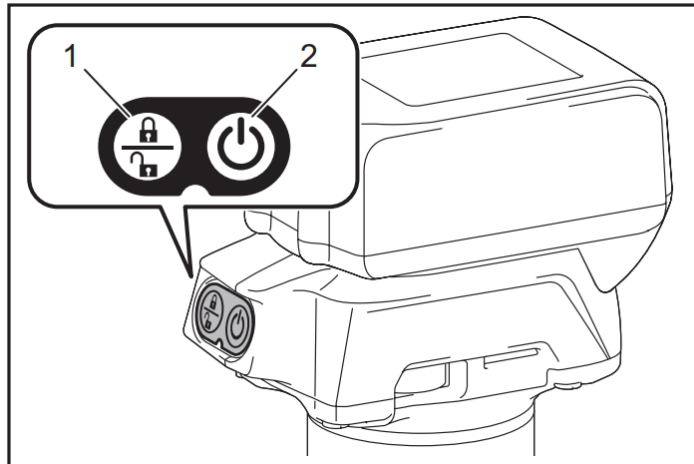
### Overheat protection

When the tool or battery is overheated, the tool stops automatically and the lamp blinks. In this case, let the tool and battery cool before turning the tool on again.

### Over discharge protection

When the battery capacity is not enough, the tool stops automatically. In this case, remove the battery from the tool and charge the battery.

## Switch action



To turn on the tool, press the lock/unlock button. The tool turns into the standby mode. To start the tool, press the start/stop button in the standby mode. To stop the tool, press the start/stop button again. The tool turns into the standby mode. To turn off the tool, press the lock/unlock button in the standby mode.

- ▶ 1. Lock/unlock button 2. Start/stop button

**NOTE:** If the tool is left for 10 seconds without any operation in the standby mode, the tool automatically turns off and the lamp goes off.

**NOTE:** You can also stop and turn off the tool by pressing the lock/unlock button while the tool is operating.

## Lighting up the front lamp

**CAUTION:** Do not look in the light or see the source of light directly.

To turn on the lamp, press the lock/unlock button.

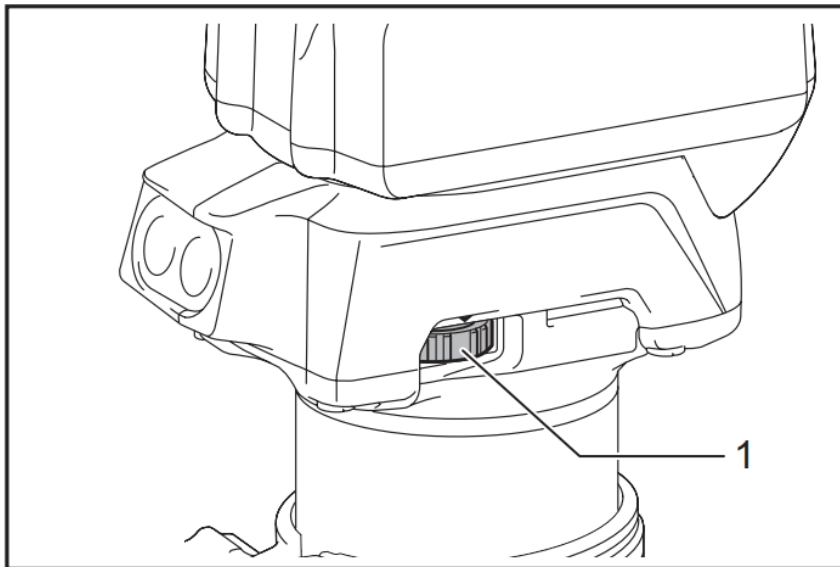
To turn off the lamp, press the lock/unlock button again.

**NOTICE:** When the tool is overheated, the lamp flickers.

Cool down the tool fully before operating the tool again.

## Speed adjusting dial

The rotation speed of the tool can be changed by turning the speed adjusting dial. The table below shows the number on the dial and the corresponding rotation speed.



► 1. Speed adjusting dial

Number	Speed
1	10,000 min <sup>-1</sup>
2	14,000 min <sup>-1</sup>
3	18,000 min <sup>-1</sup>
4	22,000 min <sup>-1</sup>
5	26,000 min <sup>-1</sup>
6	30,000 min <sup>-1</sup>

**NOTICE:** If the tool is operated continuously at low speed for a long time, the motor will get over-loaded, resulting in tool malfunction.

**NOTICE:** When changing the speed dial from "6" to "1", turn the dial counterclockwise.  
Do not turn the dial clockwise forcibly.

### Electronic function

The tool is equipped with the electronic functions for easy operation.

- **Constant speed control**

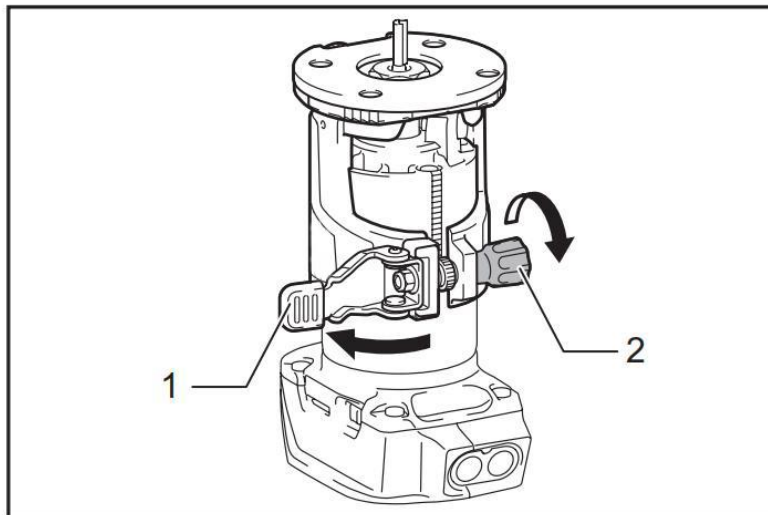
The speed control function provides the constant rotation speed regardless of load conditions.

- **Soft start**

The soft-start function minimizes start-up shock, and makes the tool start smoothly.

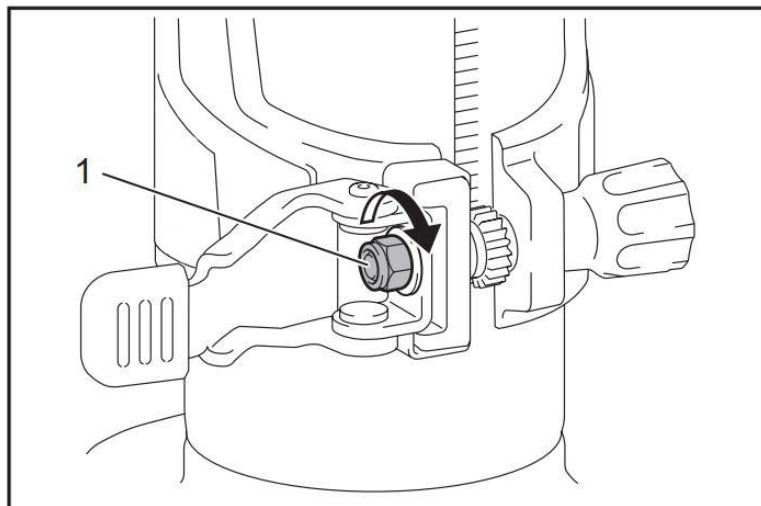
### Adjusting cutting depth

To adjust the cutting depth, open the lock lever, then move the tool base up or down by turning the adjusting screw. After the adjustment, close the lock lever firmly.



► 1. Lock lever 2. Adjusting screw

**NOTICE:** If the tool is not secured after closing the lock lever, tighten the hex nut, and then close the lock lever.



► 1. Hex nut

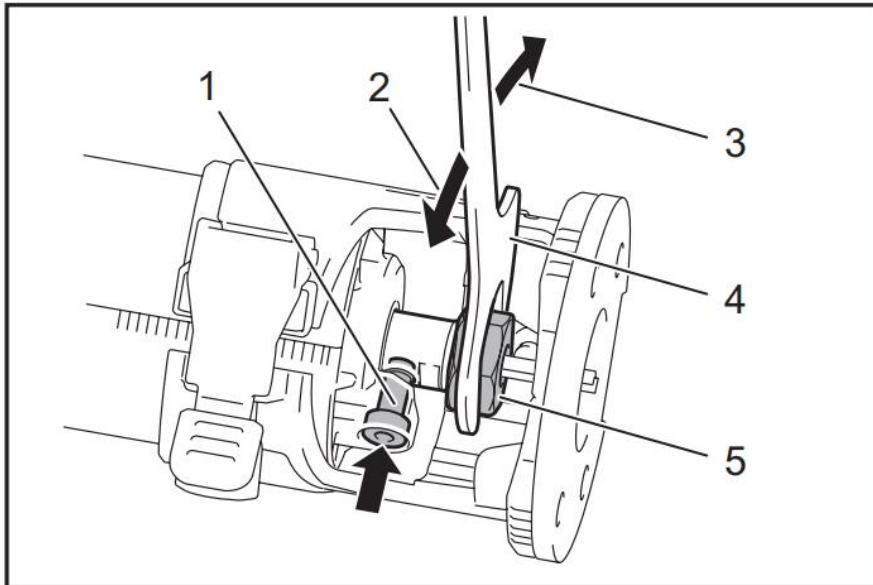
## ASSEMBLY

**CAUTION:** Always be sure that the tool is switched off and the battery cartridge is removed before carrying out any work on the tool.

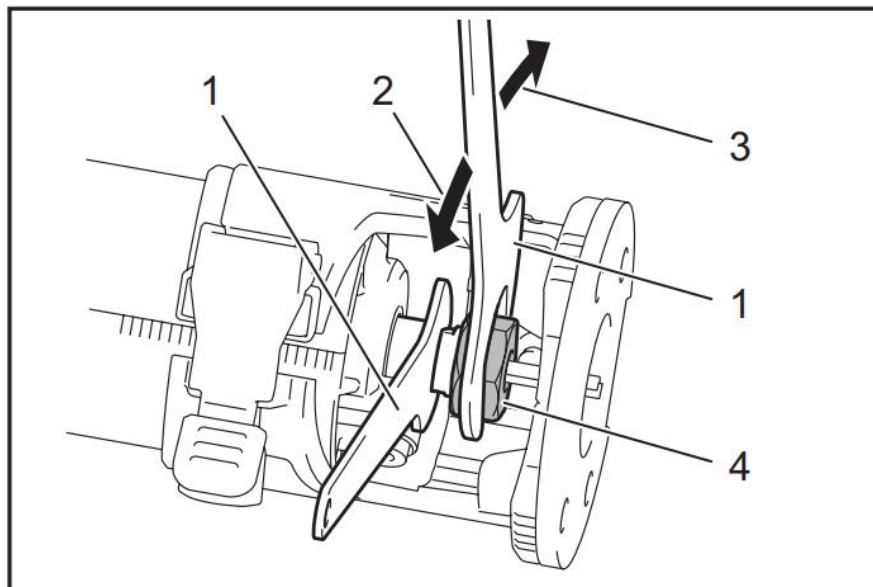
### Installing or removing trimmer bit

**NOTICE:** Do not tighten the collet nut without inserting the bit. The collet cone may break.

Insert the trimmer bit all the way into the collet cone. Press the shaft lock and tighten the collet nut with the wrench or tighten the collet nut securely with the two wrenches. To remove the bit, follow the installation procedure in reverse.

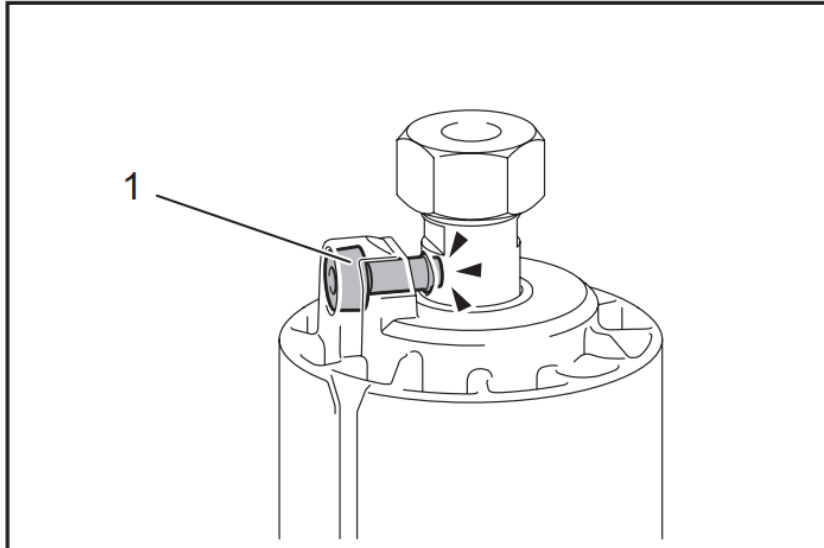


► 1. Shaft lock 2. Loosen 3. Tighten 4. Wrench 5. Collet nut



► 1. Wrench 2. Loosen 3. Tighten 4. Collet nut

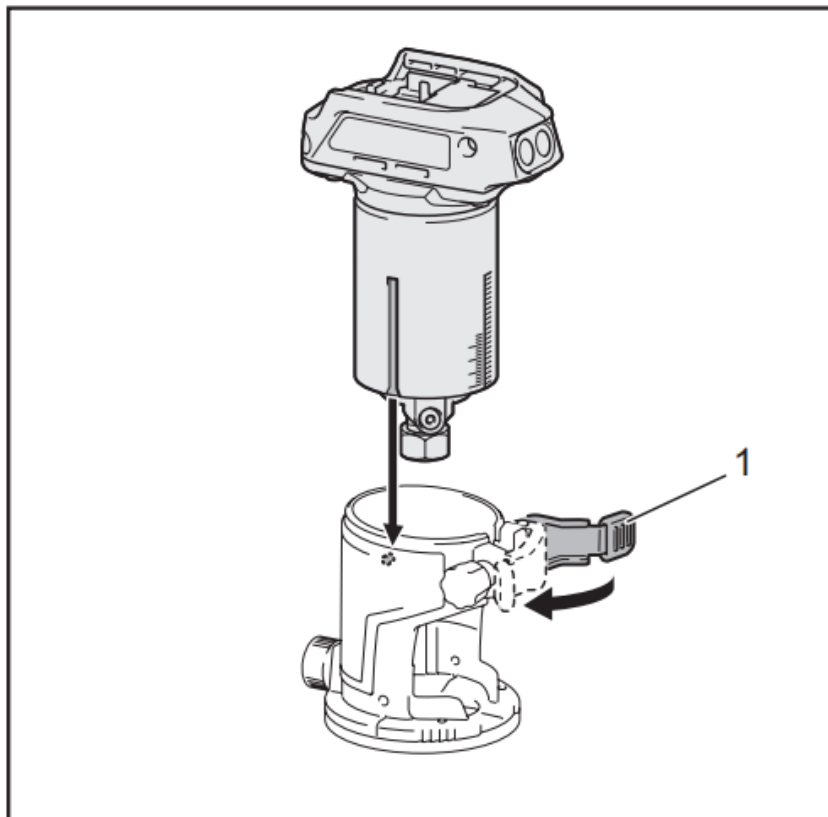
**NOTE:** The shaft lock may not return to the original position when you tighten the collet nut at the installation of the trimmer bit. The shaft lock returns to the original position when you start the tool.



► 1. Shaft lock

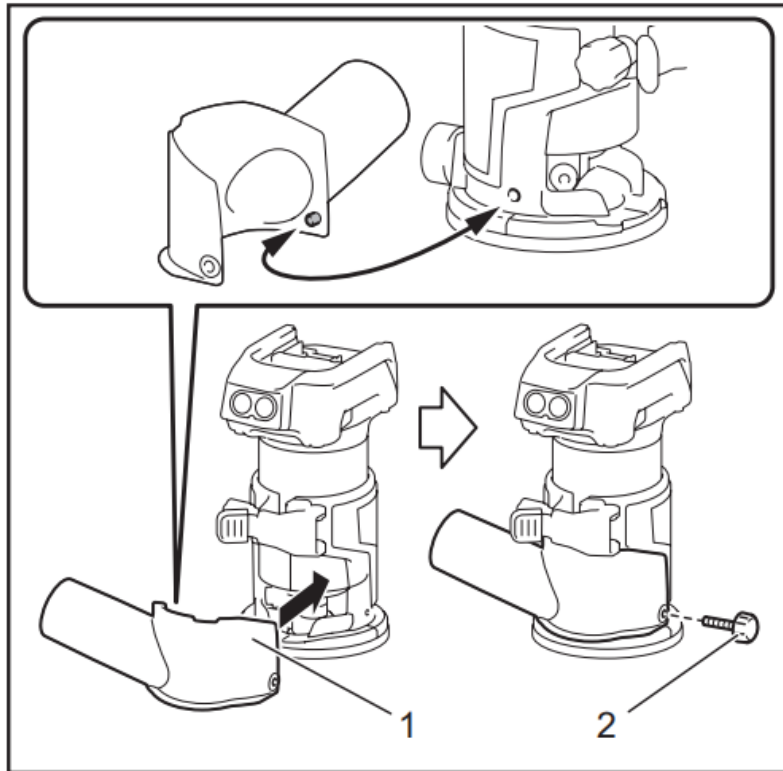
### Installing or removing the trimmer base

1. Open the lock lever of the trimmer base, then insert the tool into the trimmer base aligning the groove on the tool with the protrusion on the trimmer base.

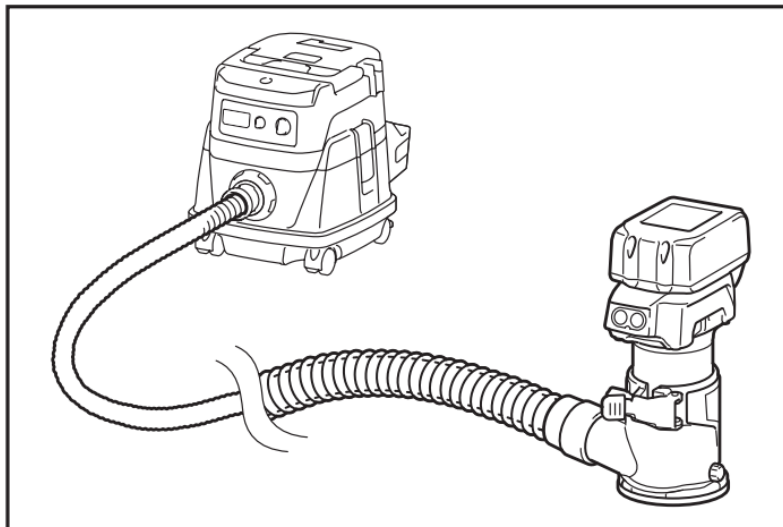


► 1. Lock lever

2. Close the lock lever.
3. Attach the dust nozzle to the trimmer base, and then tighten the thumb screw.



► 1. Dust nozzle 2. Thumb screw



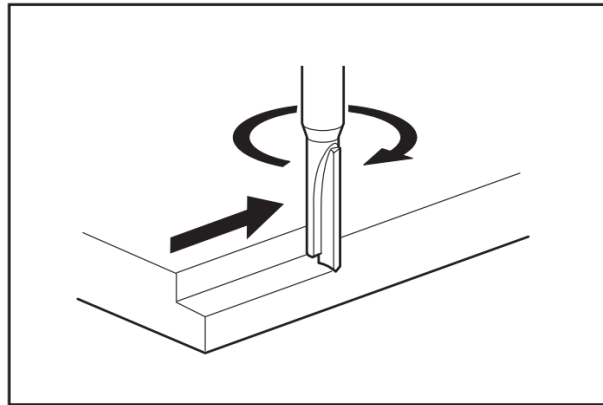
To remove the base, follow the installation procedure in reverse.

**CAUTION:** When using the tool with the trimmer base, be sure to install the dust nozzle on the trimmer base.

## OPERATION

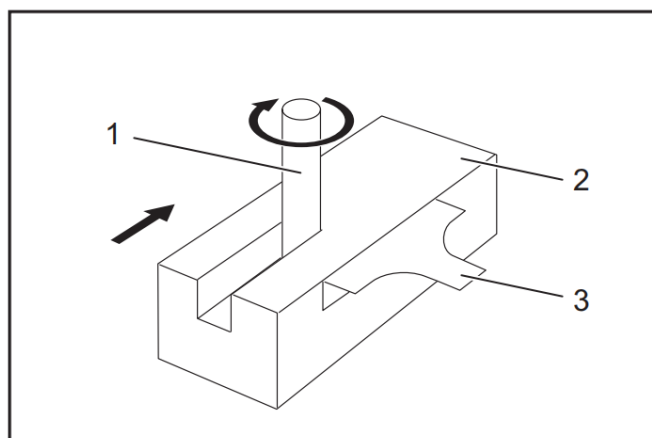
### Using the tool with the trimmer base

Set the tool base on the work piece without the trimmer bit making any contact. Turn the tool on and wait until the bit attains full speed. Move the tool forward over the work piece surface. Keep the tool base flush while moving the tool. When cutting the edge, be sure to keep the work piece surface on the left side of the trimmer bit in the feed direction.



**NOTE:** Before cutting on the actual work piece, it is recommended to make a sample cut. The proper feed speed depends on the trimmer bit size, the kind of work piece, and depth of cut. Moving the tool forward too fast may cause a poor quality of cut, or damage to the bit or motor. Moving the tool forward too slowly may burn and mar the cutting surface.

When using the trimmer shoe, the straight guide, or the trimmer guide, be sure to keep it on the right side in the feed direction. This will help to keep it flush with the side of the work piece.



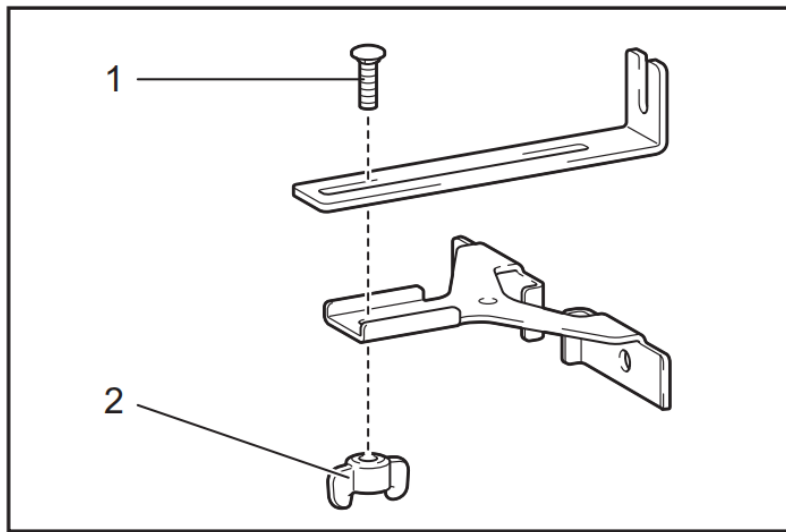
► 1. Trimmer bit 2. Work piece 3. Straight guide

**NOTICE:** Since excessive cutting may cause overload of the motor or difficulty in controlling the tool, the depth of cut should not be more than 3 mm at a pass when cutting grooves. When you wish to cut grooves more than 3 mm deep, make several passes with progressively deeper bit settings.

## Using the straight guide

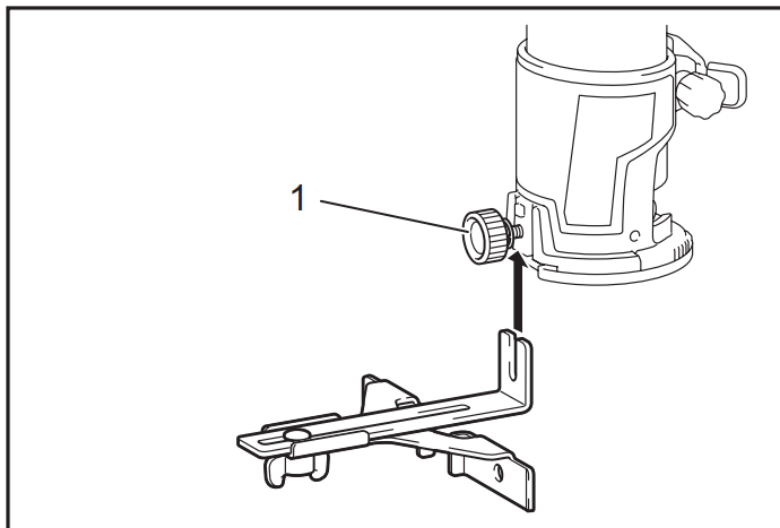
### Optional accessory

1. Assemble the straight guide with the bolt and the wing nut.



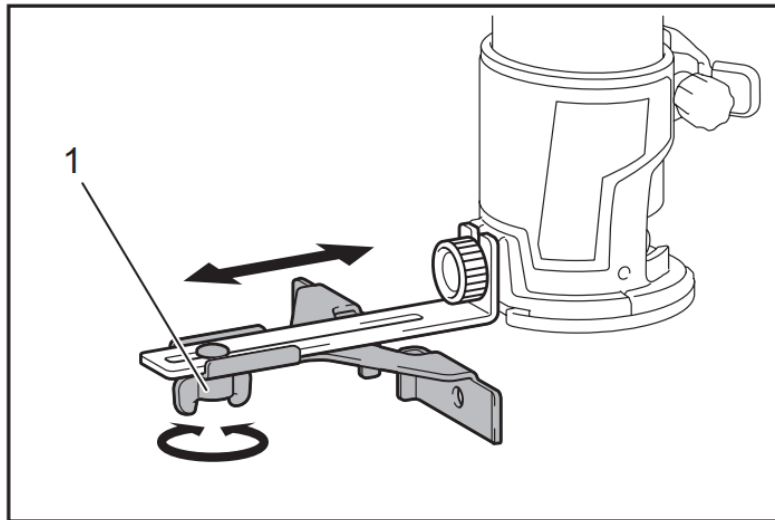
- 1. Bolt 2. Wing nut

2. Attach the straight guide to the trimmer base with the clamp screw.



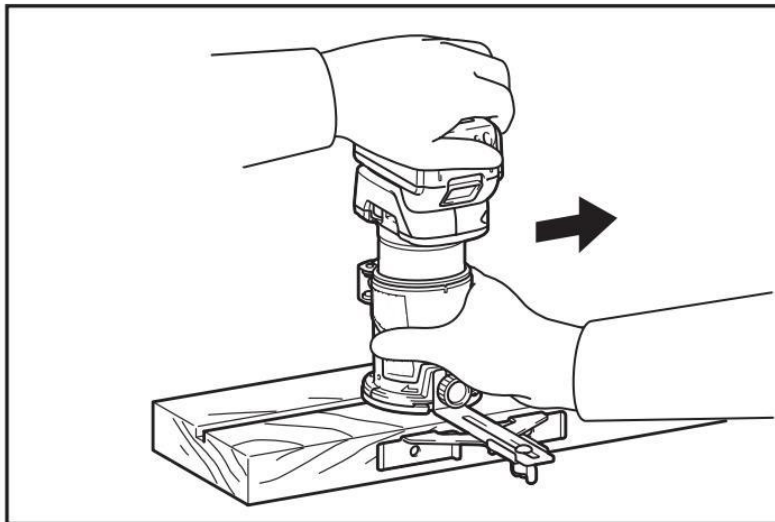
- 1. Clamp screw

3. Loosen the wing nut on the straight guide and adjust the distance between the bit and the straight guide. At the desired distance, tighten the wing nut

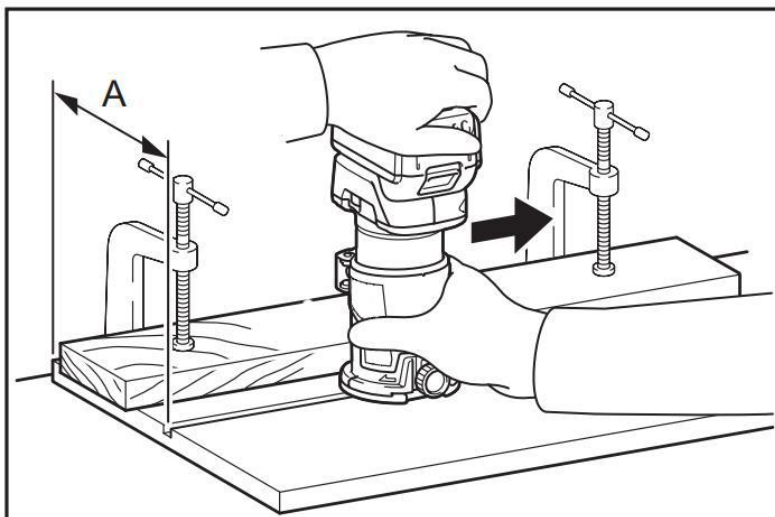


► 1. Wing nut

4. Move the tool with the straight guide flush with the side of the work piece.



If the distance (A) between the side of the work piece and the cutting position is too wide for the straight guide, or if the side of the work piece is not straight, the straight guide cannot be used. In this case, firmly clamp a straight board to the work piece and use it as a guide against the trimmer base. Feed the tool in the direction of the arrow.

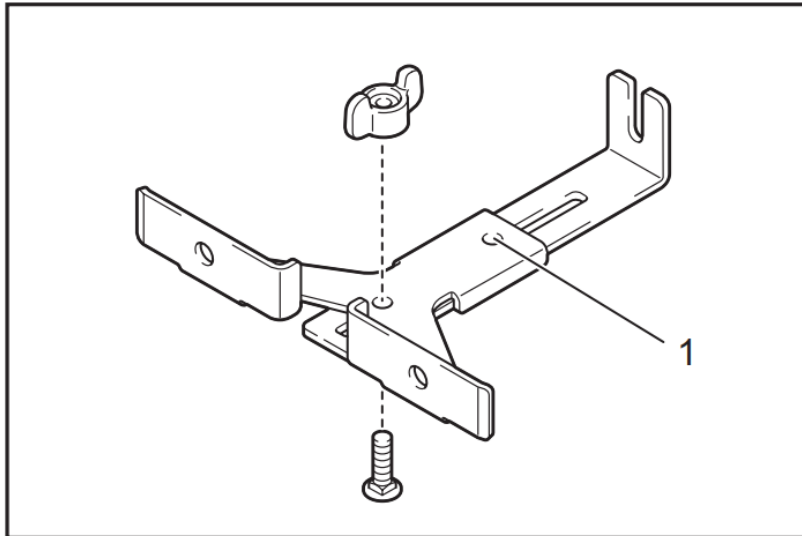


## Using the straight guide for circular work

For circular work, assemble the straight guide as shown in the figures. The minimum and maximum radius of circles to be cut (distance between the center of circle and the center of bit) are as follows:

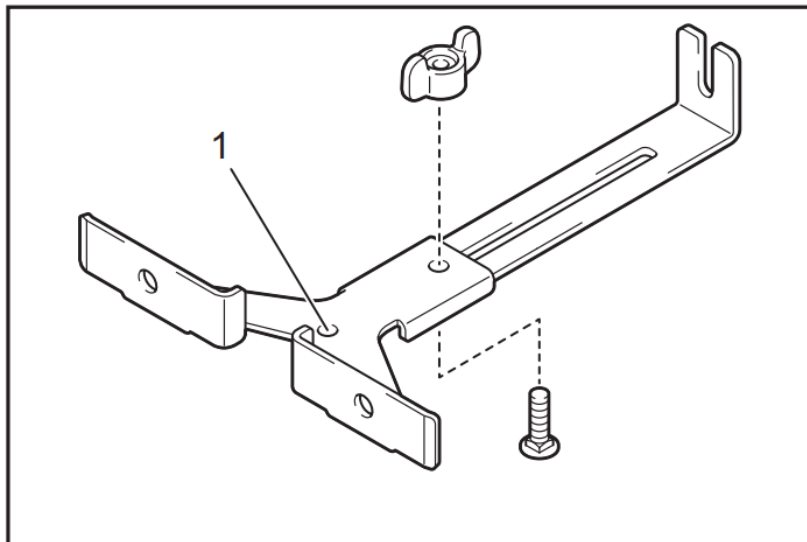
- Minimum: 70mm
- Maximum: 221 mm

**For cutting circles between 70 mm and 121 mm in radius.**



► 1. Center hole

For cutting circles between 121 mm and 221 mm in radius.

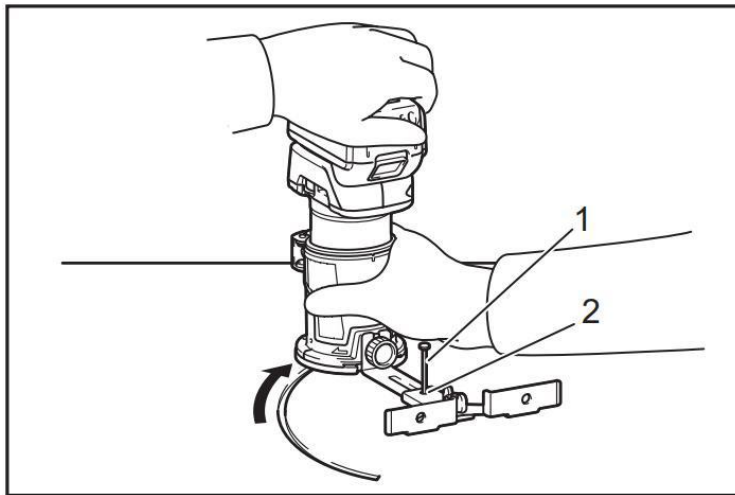


► 1. Center hole

**NOTE:** Circles between 172 mm and 186 mm in radius cannot be cut using this guide.

Align the center hole in the straight guide with the center of the circle to be cut. Drive a nail less than 6 mm in diameter into the center hole to secure the straight guide.

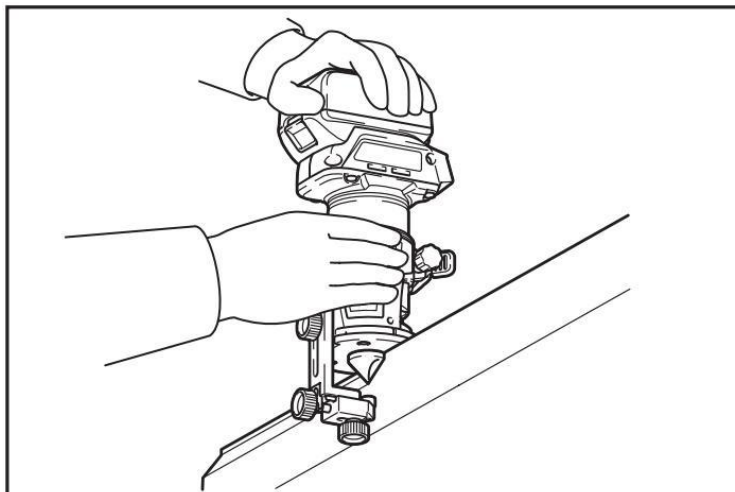
Pivot the tool around the nail in the clockwise direction.



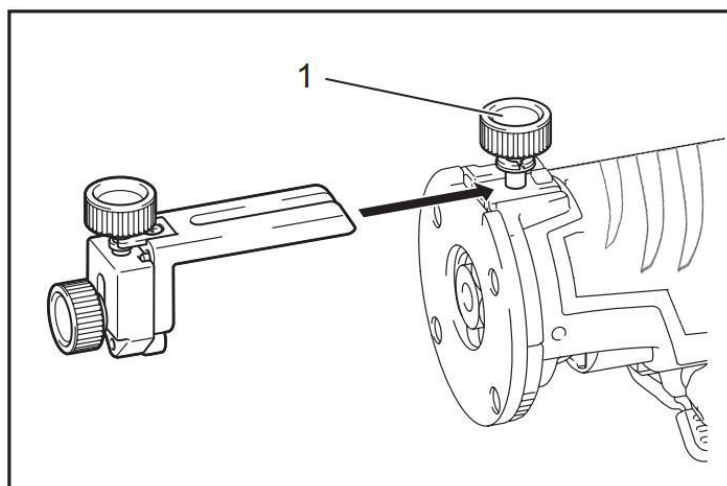
- ▶ 1. Nail 2. Center hole

### Using the trimmer guide

The trimmer guide allows for trimming the curved side like veneers for furniture by moving the guide roller along the side of the work piece.

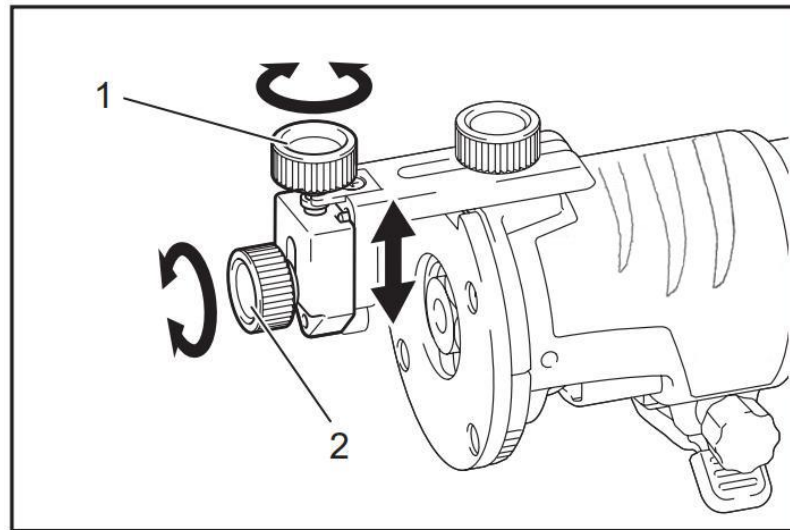


- 1. Loosen the clamp screw, then install the trimmer guide on the trimmer base, and then tighten the clamp screw.



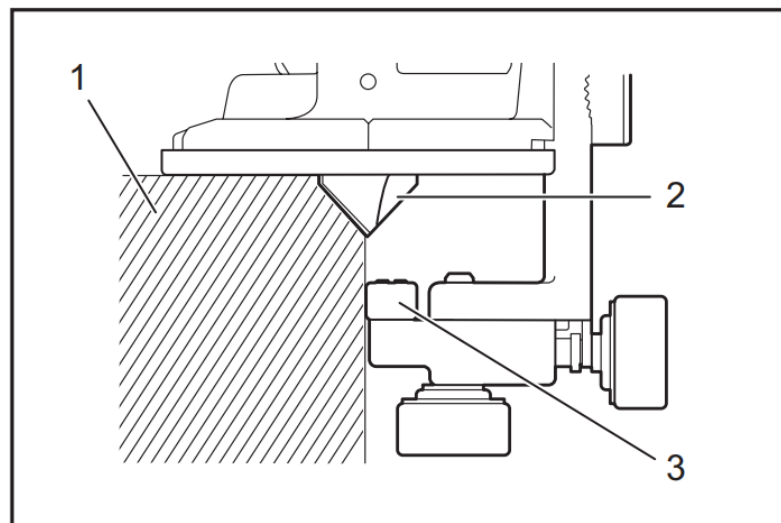
- ▶ 1. Clamp screw

2. Loosen the clamp screw and adjust the distance between the trimmer bit and the trimmer guide by turning the adjusting screw (1 mm per turn). At the desired distance, tighten the clamp screw to secure the trimmer guide



► 1. Adjusting screw 2. Clamp screw

3. Move the tool with the guide roller riding the side of the work piece.



► 1. Work piece 2. Bit 3. Guide roller

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