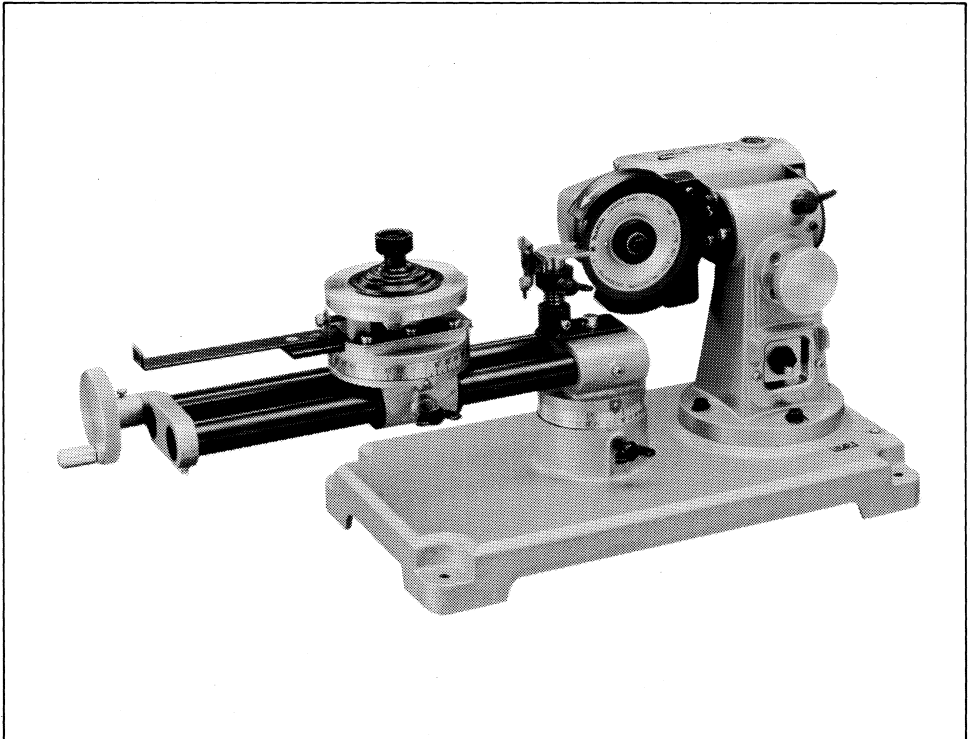


Makita

T.C.T. Saw Blade Sharpener

MODEL 9803

INSTRUCTION MANUAL



SPECIFICATIONS

| Applicable blade size | | No load speed (RPM) | Dimensions (L x W x H) | Net weight |
|-----------------------------------|-----------------|------------------------|---|---------------------|
| Diameter | Max. thickness | | | |
| 120 mm – 500 mm (4-3/4" – 20") | 4 mm (5/32") | 5,500 | 546 mm x 200 mm x 236 mm (21-1/2" x 7-7/8" x 9-1/4") | 11 kg (24.2 lbs) |

* Manufacturer reserves the right to change specifications without notice.

* Note: Specifications may differ from country to country.

BEFORE CONNECTING YOUR TOOL TO A POWER SOURCE

**Be sure you have read all
GENERAL POWER TOOL SAFETY RULES**

GENERAL SAFETY PRECAUTIONS

- 1. KNOW YOUR POWER TOOL.** Read the owner's manual carefully. Learn the tools applications and limitations, as well as the specific potential hazards peculiar to it.
- 2. KEEP GUARDS IN PLACE** and in working order.
- 3. REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
- 4. KEEP WORK AREA CLEAN.** Cluttered areas and benches invite accidents.
- 5. DON'T USE IN DANGEROUS ENVIRONMENT.** Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted.
- 6. KEEP CHILDREN AWAY.** All visitors should be kept safe distance from work area.
- 7. MAKE WORKSHOP KID PROOF** with padlocks, master switches, or by removing starter keys.
- 8. DON'T FORCE TOOL.** It will do the job better and safer at the rate for which it was designed.
- 9. USE RIGHT TOOL.** Don't force tool or attachment to do a job for which it was not designed.
- 10. WEAR PROPER APPAREL.** Wear no loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.
- 11. ALWAYS USE SAFETY GLASSES.** Also use face or dust mask if cutting operation is dusty. Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.
- 12. SECURE WORK.** Use clamps or a vise to hold work when practical. It's safer than using your hand and it frees both hands to operate tool.
- 13. DON'T OVERREACH.** Keep proper footing and balance at all times.
- 14. MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
- 15. DISCONNECT TOOLS** before servicing; when changing accessories such as blades, bits, cutters, and the like.
- 16. REDUCE THE RISK OF UNINTENTIONAL STARTING.** Make sure switch is in off position before plugging in.
- 17. USE RECOMMENDED ACCESSORIES.** Consult the owner's manual for recommended accessories. The use of improper accessories may cause risk of injury to persons.

18. **NEVER STAND ON TOOL.** Serious injury could occur if the tool is tipped or if the cutting tool is accidentally contacted.
19. **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, binding 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.
20. **DIRECTION OF FEED.** Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.
21. **NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF.** Don't leave tool until it comes to a complete stop.
22. **PROPER GROUNDING.** This tool should be grounded while in use to protect the operator from electric shock.
23. **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.

VOLTAGE WARNING: Before connecting the tool to a power source (receptacle, outlet, etc.) be sure the voltage supplied is the same as that specified on the nameplate of the tool. A power source with voltage greater than that specified for the tool can result in **SERIOUS INJURY** to the user — as well as damage to the tool. If in doubt, **DO NOT PLUG IN THE TOOL.** Using a power source with voltage less than the nameplate rating is harmful to the motor.

ADDITIONAL SAFETY RULES

- 1. Don't use the tool in presence of flammable liquids or gases.**
- 2. Check the wheel carefully for cracks or damage before operation. Replace cracked or damaged wheel immediately.**
- 3. USE ONLY DIAMOND WHEEL. Never install and attempt to use other than a diamond wheel.**
- 4. CHECK WHEEL IN OPERATION. Before using the sharpener, or after changing a diamond wheel, always give it a test run. Watch for vibration or wobbling that could indicate poor installation or a poorly balanced wheel.**
- 5. SHARPEN ONLY CARBIDE-TIPPED BLADES. Do not attempt to sharpen other kinds of saw blades.**
- 6. Do not leave the tool running.**
- 7. DO NOT USE WATER OR COOLANT. This is a dry-type diamond wheel.**
- 8. Don't abuse cord. Never yank cord to disconnect from receptacle. Keep cord away from heat, oil, water and sharp edges.**

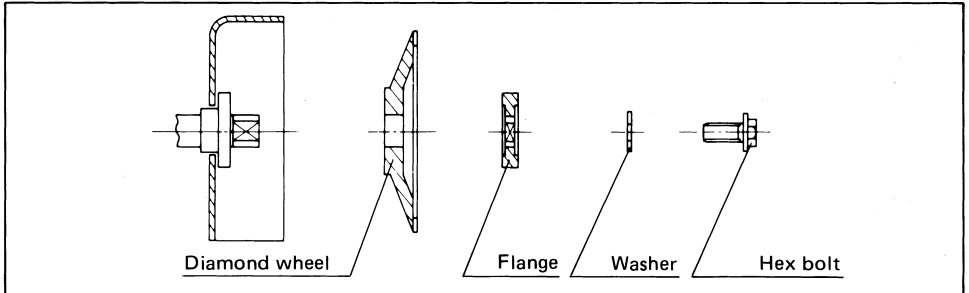
SAVE THESE INSTRUCTIONS.

Installing or removing diamond wheel

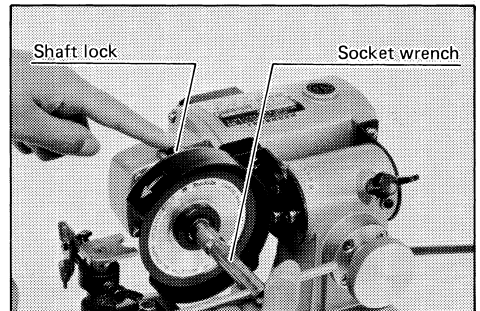
CAUTION:

Always be sure that the tool is switched off and unplugged before installing or removing the diamond wheel.

Install the diamond wheel in the following order: Diamond wheel, flange, washer, hex bolt. Depress the shaft lock and tighten the hex bolt securely with the socket wrench.



To remove the diamond wheel, follow the installation procedure in reverse.

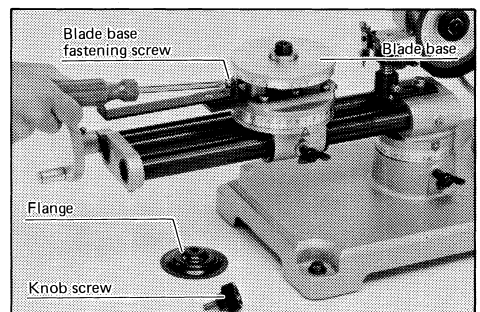


Adjusting height of blade base

NOTE:

The sharpener is factory shipped with the blade base set for the proper height to sharpen a carbide-tipped saw blade with a thickness of 1.5 mm (1/16").

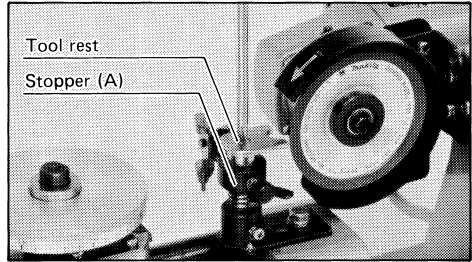
Remove the knob screw and flange, loosen the blade base fastening screw, turning the blade base clockwise to lower it as far as possible. Next, turn the blade base counter-clockwise so that the pointer is set to the graduation for the blade thickness. Then tighten the blade base fastening screw to secure the blade base.



Tool rest

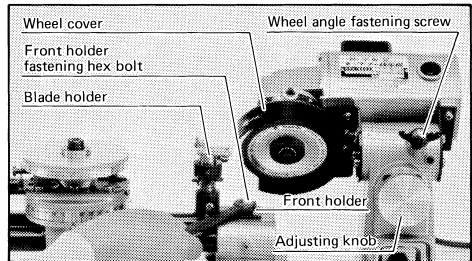
(With a blade diameter of 160 mm (6-1/4'') or more)

Remove the screw holding the tool rest, then take off the tool rest and stopper (A). Re-install the tool rest.

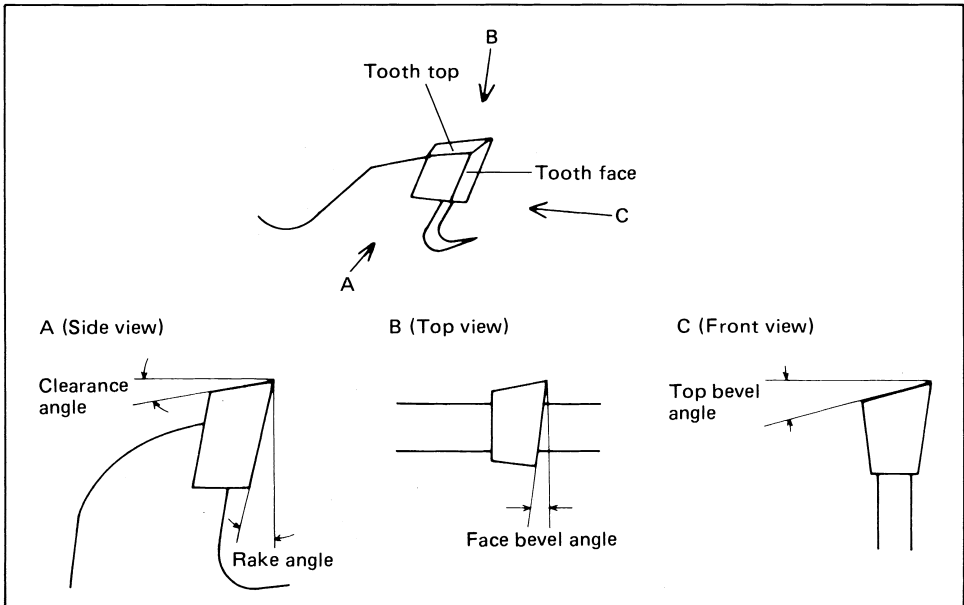


(With a blade diameter less than 160 mm (6-1/4''))

Loosen the wheel angle fastening screw, then turn the adjusting knob to angle the wheel cover toward the front. Loosen the hex bolt holding the front holder. Remove the tool rest together with the front holder and blade holder.



Various blade tooth angles



SHARPENING TOOTH FACES

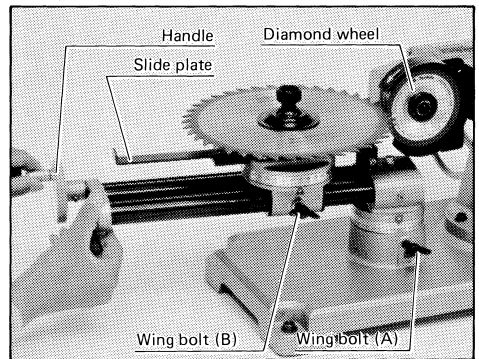
Adjusting angle

Loosen the wing bolt (B) and turn the handle to move back the blade base so that the carbide-tipped saw blade will not contact the diamond wheel. Install the carbide-tipped saw blade on the blade base in the following order : Ring matched to the blade arbor size, carbide-tipped saw blade, flange, knob screw.

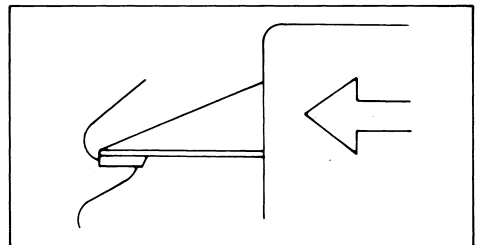
NOTE :

Finger-tighten the knob screw so that the carbide-tipped saw blade can still turn.

Press the slide plate up toward the diamond wheel. Loosen the wing bolt (A) and turn the handle to move the blade base closer to the diamond wheel.

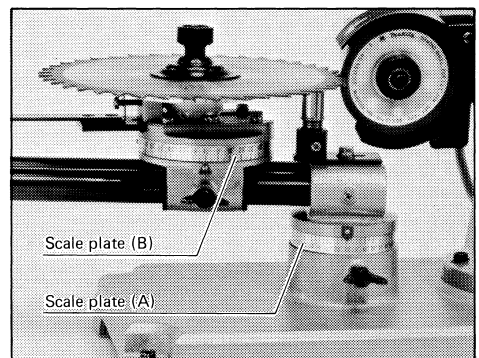


When the rake angle is unknown, align the tooth face to be ground with the wheel face. Then tighten the wing bolts (A) and (B).

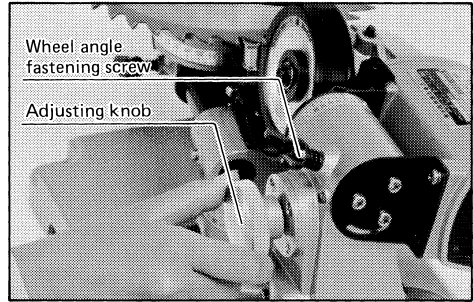


Now loosen the wing bolt (C) securing the scale plate (B) and set the pointer on the scale plate (B) to the same color graduation to which the scale plate (A) is set. Then secure the wing bolt (C).

When the rake angle is known, if the rake angle is 10° , the pointers on the scale plates (A) and (B) should both be set to the red graduation for 10° . Then secure the wing bolts (A) and (C).

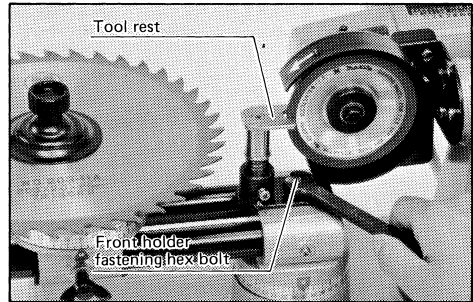


When the carbide-tipped saw blade has a face bevel angle, loosen the wheel angle fastening screw and turn the adjusting knob until the diamond wheel tilt allows its face to match the face bevel angle of the carbide-tipped saw blade. Then secure the wheel angle fastening screw.

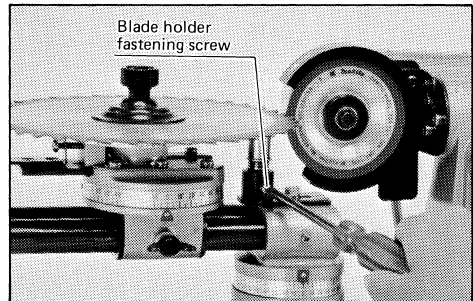


Adjusting tool rest

Loosen the wing bolt (B) and turn the handle to move back the blade base. Then loosen the screw holding the tool rest in place and also loosen the hex bolt holding the front holder in place. Now bring the tool rest as close as possible to the grinding face of the diamond wheel before securing the screw and hex bolt.



Press the slide plate up toward the diamond wheel, turning the handle to move the blade base so that the carbide portion of the carbide-tipped saw blade will be directly over the tool rest. Loosen the screw holding the blade holder and the tool rest will make contact with the carbide portion of the carbide-tipped saw blade. Then secure the screw.

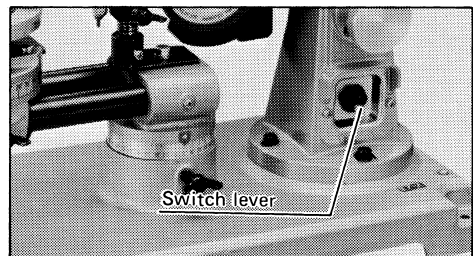


CAUTION:

Be sure that the tool rest does not contact the diamond wheel itself.

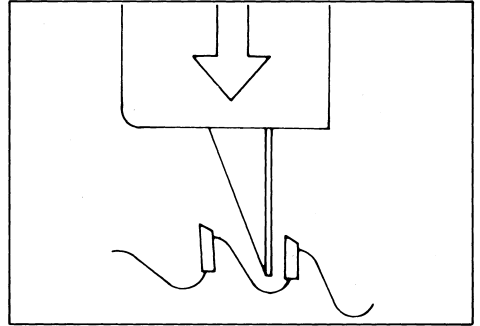
Switch action

To start the tool, move the switch lever to the "ON" position. To stop, move the switch lever to the "OFF" position.

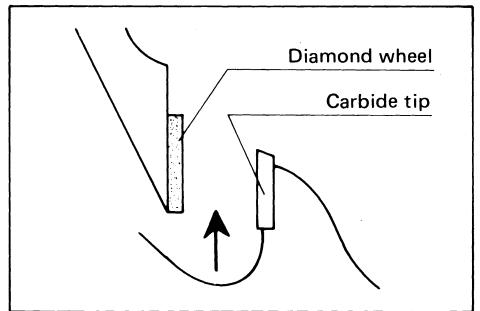


Sharpening operation

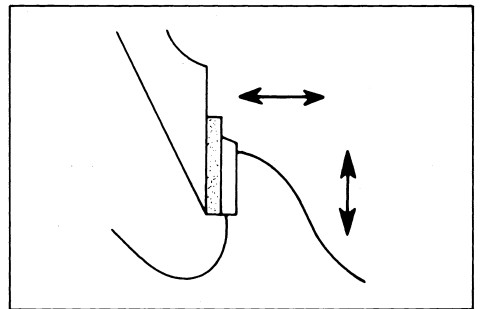
Press the slide plate up toward the diamond wheel and turn the handle to move the blade base, leaving a clearance between the very edge of the diamond wheel and the blade gullet. Then tighten the wing bolt (B).



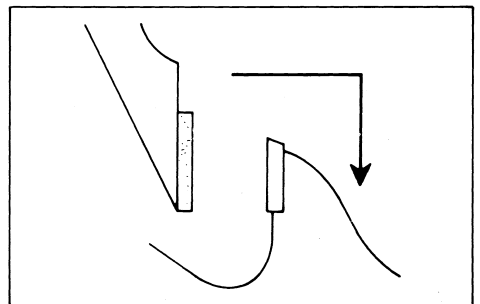
Draw the slide plate out toward you, then switch on the tool and bring the carbide tip forward without contacting the diamond wheel.



Press the carbide tip (tooth face) lightly up against the diamond wheel several times. If the tooth face is longer than the face of the diamond wheel, press on the tooth face lightly and work it back and forth.

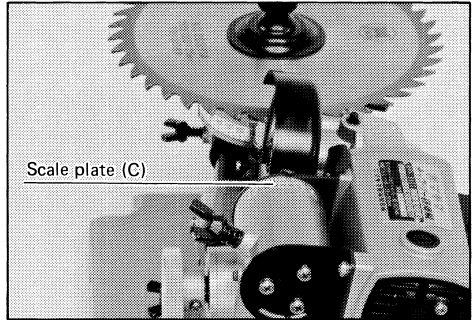


Withdraw the carbide tip (tooth face) from the diamond wheel, then bring the next carbide tip in for sharpening.

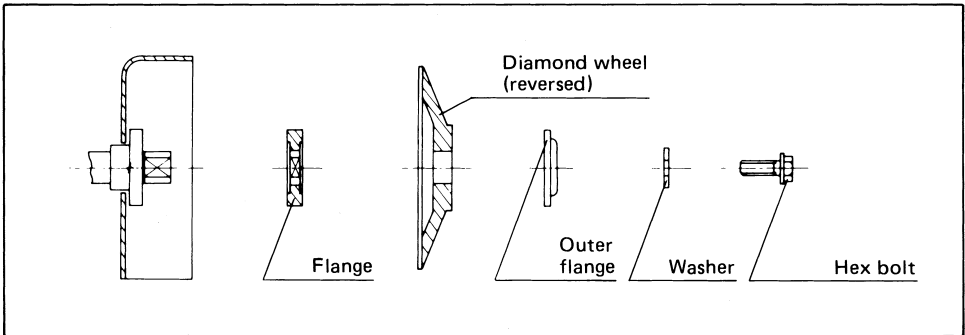


CAUTION:

- When the carbide-tipped saw blade has a face bevel angle, sharpen every other carbide tip, then do the remaining carbide tips with the same bevel on the opposite side. For example, if the face bevel angle is 5° on the right side of the scale plate (C) when sharpening every other carbide tip, you must set the pointer to 5° on the left side of the scale plate (C) to sharpen the remaining carbide tips.

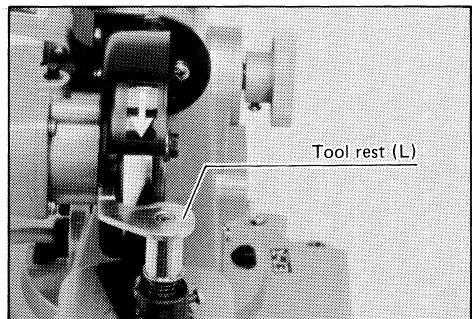


- Keep the pressure and number of sharpenings for each tooth face as uniform as possible so that all teeth will be sharpened evenly.
- Do not sharpen the blade body. The diamond wheel will become loaded and unable to sharpen effectively.
- When the rake angle is more than 15° or there is a special tooth configuration (e.g., long carbide tip), the carbide tip might contact the sharpener itself. In this case, first remove the tool rest and reverse the diamond wheel, re-installing it in the following order.



Next, install the tool rest (L) on the blade holder. Invert the carbide-tipped saw blade and install on the blade base.

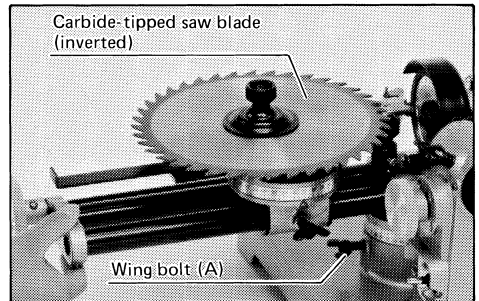
Even though you knob the rake angle, follow the procedure for when the angle is unknown. Adjust the tool rest (L) in accordance with the previously covered "Adjusting tool rest."



SHARPENING TOOTH TOPS

(With a blade diameter of 160 mm (6-1/4") or more)

Fit the stopper (A) onto the blade holder after removing the carbide-tipped saw blade and tool rest. Then re-install the tool rest. Next, invert the carbide-tipped saw blade and install it on the blade base. Loosen the wing bolt (A) and move the blade base to the position indicated in the figure.



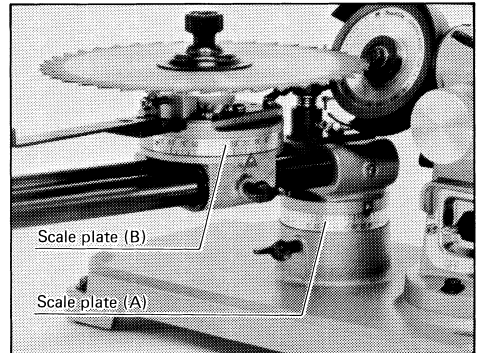
CAUTION:

If you reversed the diamond wheel when sharpening tooth faces, you must now return it to its original position. The carbide-tipped saw blade should be in the same position as for tooth face sharpening.

When the clearance angle is unknown, refer to the rake angle adjusting procedure for adjusting the clearance angle. But there is one difference: The pointer on the scale plate (B) must be set to the red graduation for 90° minus the graduation on the scale plate (A).

Example :

1. Scale plate (A) reads 75° .
2. Subtract 75° from 90° .
3. Set the pointer to the red graduation for 15° on the scale plate (B).



When the clearance angle is known, set the pointer on the scale plate (B) to the red graduation corresponding to the degree of the clearance angle. Subtract the degree of the clearance angle from 90° , then set the pointer on the scale plate (A) to the black graduation for the remainder.

Example :

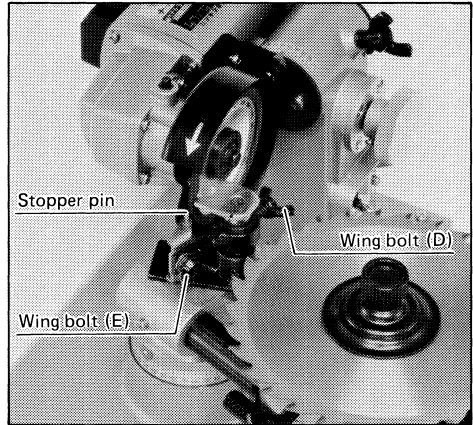
Supposing that the clearance angle is known to be 75° :

1. Set the pointer on the scale plate (B) to the red graduation for 75° .
2. Subtract 75° from 90° .
3. Set the pointer on the scale plate (A) to the black graduation for 15° .

When the carbide-tipped saw blade has a top bevel angle, follow the procedure for when the carbide-tipped saw blade has a face bevel angle.

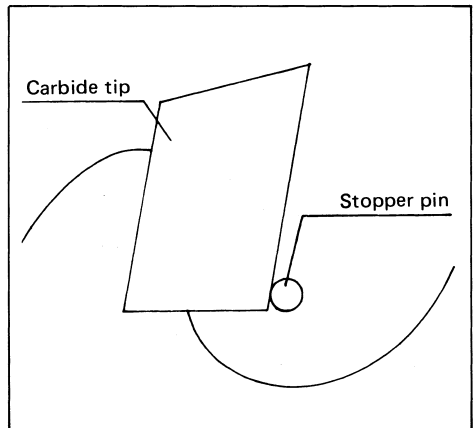
Adjust the tool rest in accordance with the previously covered "Adjusting tool rest."

Loosen the wing bolts (D) and (E), then align the tooth top with the face of the diamond wheel. Have the stopper pin positioned in the tooth one or two to the left of the one being sharpened, so that it rests against the lowest part of the carbide tip (in relation to the gullet). Then secure the wing bolts (D) and (E).



CAUTION:

When the stopper (A) contacts the diamond wheel, the stopper (A) should be installed upside down.



Sharpening operation

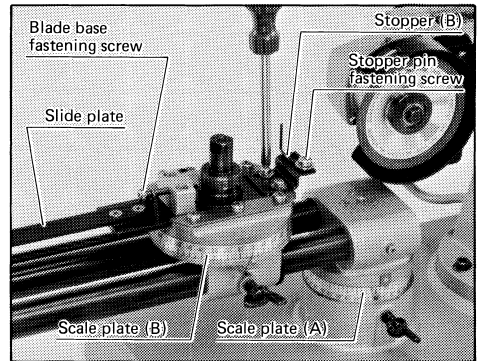
Draw the slide plate out toward you, then switch on the tool. With the tooth face running along the stopper pin, press the carbide tip (tooth top) lightly up against the diamond wheel several times. Withdraw the carbide tip (tooth top) from the diamond wheel, then bring the next carbide tip in for sharpening.

CAUTION:

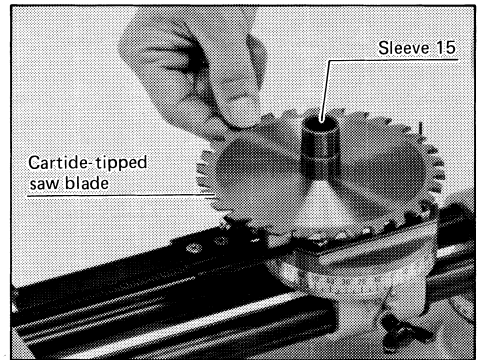
When the carbide-tipped saw blade has a top bevel angle, sharpen every other carbide tip, then do the remaining carbide tips with the same bevel on the opposite side. For example, if the top bevel angle is 5° on the right side of the scale plate (C) when sharpening every other carbide tip, you must set the pointer to 5° on the left side of the scale plate (C) to sharpen the remaining carbide tips.

〈With a blade diameter less than 160 mm (6-1/4″)〉

Loosen the blade base fastening screw. Turn the blade base counterclockwise to remove it. Install the stopper (B) on the slide plate. Then re-install the blade base and make the height adjustment.

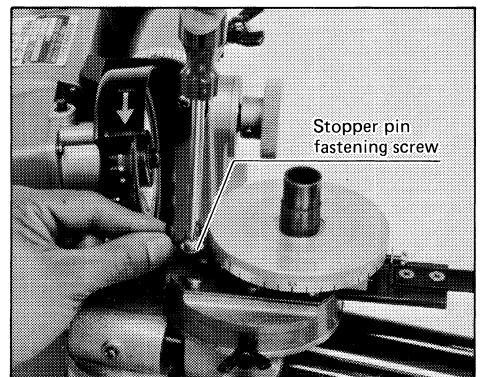


Now loosen the screw holding the stopper pin, install sleeve 15 on the blade base, then fit on the carbide-tipped saw blade.



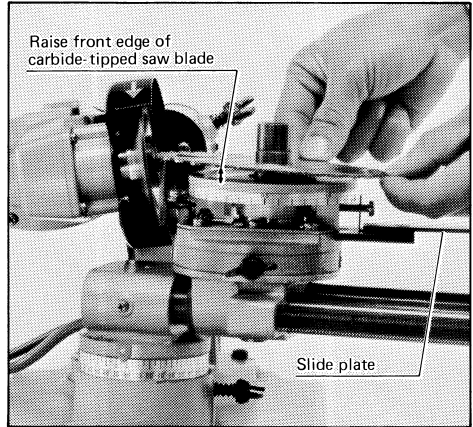
Adjust the clearance angle in the same way as mentioned earlier under 〈With a blade diameter of 160 mm (6-1/4″) or more〉. When the carbide-tipped saw blade has a top bevel angle, the top bevel angle should also be done in the same way as mentioned earlier under 〈With a blade diameter of 160 mm (6-1/4″) or more〉.

After adjusting the stopper pin in the same way as the stopper (A), remove the carbide-tipped saw blade and secure the stopper pin fastening screw. Then re-install the carbide-tipped saw blade.



Sharpening operation

Draw the slide plate out toward you, then switch on the tool. With the tooth face running along the stopper pin, press the carbide tip (tooth top) lightly up against the diamond wheel several times. Withdraw the carbide tip (tooth top) from the diamond wheel, raise the front edge of the carbide-tipped saw blade slightly and then bring the next carbide tip in for sharpening.

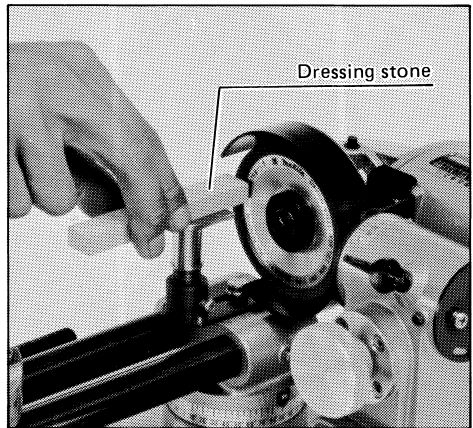


CAUTION:

When the carbide-tipped saw blade has a top bevel angle, sharpen every other carbide tip, then do the remaining carbide tips with the same bevel on the opposite side. For example, if the top bevel angle is 5° on the right side of the scale plate (C) when sharpening every other carbide tip, you must set the pointer to 5° on the left side of the scale plate (C) to sharpen the remaining carbide tips.

Dressing

A loaded diamond wheel will result in poor sharpening performance, so the diamond wheel must be dressed. Bring the dressing stone lightly up against the diamond wheel for a few seconds while the diamond wheel is running.



CAUTION:

Do not let the dressing stone get caught in the turning diamond wheel. Grasp firmly.

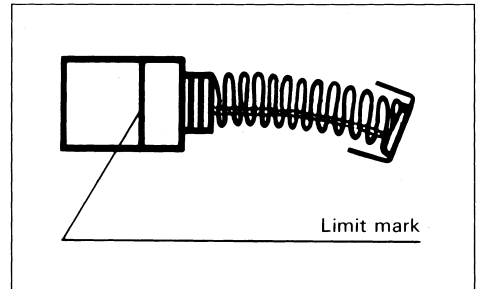
MAINTENANCE

CAUTION:

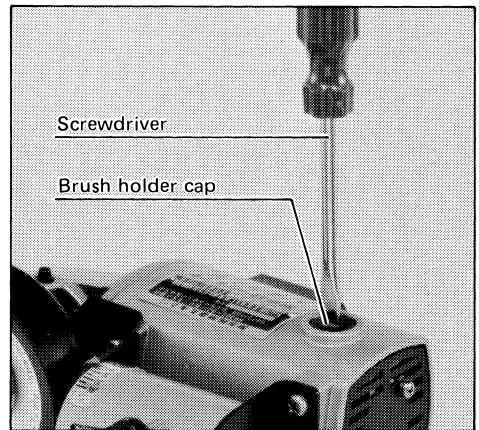
Always be sure that the tool is switched off and unplugged before attempting to perform inspection or maintenance.

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.



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 dust from the tool and lubricate the sliding portions.

To maintain product SAFETY and RELIABILITY, repairs, any other maintenance or adjustment should be performed by Makita Authorized or Factory 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. The accessories or attachments should be used only in the proper and intended manner.

- **Ring 15**

| Part No. |
|----------|
| 257145-7 |
| 257120-3 |
| 257124-5 |
| 257122-9 |

- **Tool rest L**

- **Sleeve 15**

- **Socket wrench 9**

- **Stopper B**

- **Blade base set**

- **Dressing stone**

- **Wrench 10-13**

- **Flange 30**

- **Diamond wheel**

| Diameter (mm) | Hole diameter (mm) |
|------------------|-----------------------|
| 80 (3-1/8") | 12.7 (1/2") |
| 80 (3-1/8") | 12.7 (1/2") |

Makita Corporation
Anjo, Aichi, Japan