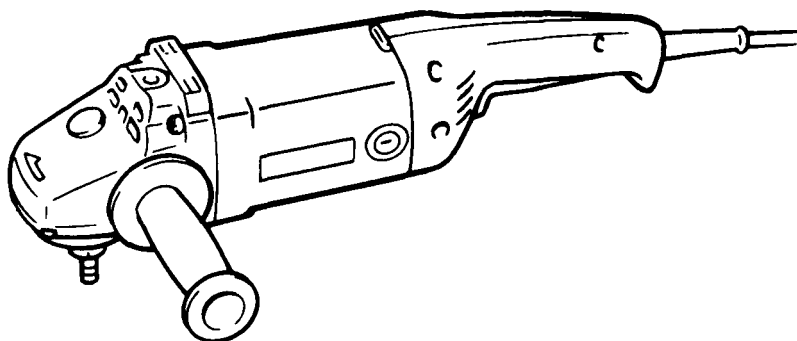


# Makita

## Angle Sander

**MODEL 9020L**

### INSTRUCTION MANUAL



**DOUBLE  
INSULATION**

### SPECIFICATIONS

No load speed (RPM)	Overall length	Net weight	Spindle thread
6,000	462 mm (18-3/16")	4.7 kg (10.4 lbs)	5/8—11 UNC

\* Manufacturer reserves the right to change specifications without notice.

\* Note: Specifications may differ from country to country.

**WARNING:** For your personal safety, READ and UNDERSTAND before using.

**SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.**

# **IMPORTANT SAFETY INSTRUCTIONS**

## **(For All Tools)**

**WARNING: WHEN USING ELECTRIC TOOLS, BASIC SAFETY PRECAUTIONS SHOULD ALWAYS BE FOLLOWED TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, AND PERSONAL INJURY, INCLUDING THE FOLLOWING:**

### **READ ALL INSTRUCTIONS.**

- 1. KEEP WORK AREA CLEAN.** Cluttered areas and benches invite injuries.
- 2. CONSIDER WORK AREA ENVIRONMENT.** Don't use power tools in damp or wet locations. Keep work area well lit. Don't expose power tools to rain. Don't use tool in presence of flammable liquids or gases.
- 3. KEEP CHILDREN AWAY.** All visitors should be kept away from work area. Don't let visitors contact tool or extension cord.
- 4. STORE IDLE TOOLS.** When not in use, tools should be stored in dry, and high or locked-up place — out of reach of children.
- 5. DON'T FORCE TOOL.** It will do the job better and safer at the rate for which it was intended.
- 6. USE RIGHT TOOL.** Don't force small tool or attachment to do the job of a heavy-duty tool. Don't use tool for purpose not intended.
- 7. DRESS PROPERLY.** Don't wear loose clothing or jewelry. They can be caught in moving parts. Rubber gloves and non-skid footwear are recommended when working outdoors. Wear protective hair covering to contain long hair.
- 8. USE SAFETY GLASSES.** Also use face or dust mask if cutting operation is dusty.
- 9. DON'T ABUSE CORD.** Never carry tool by cord or yank it to disconnect from receptacle. Keep cord from heat, oil, and sharp edges.
- 10. SECURE WORK.** Use clamps or a vise to hold work. It's safer than using your hand and it frees both hands to operate tool.
- 11. DON'T OVERREACH.** Keep proper footing and balance at all times.
- 12. MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for better and safer performance. Follow instructions for lubricating and changing accessories. Inspect tool cords periodically and if damaged, have repaired by authorized service facility. Inspect extension cords periodically and replace if damaged. Keep handles dry, clean, and free from oil and grease.
- 13. DISCONNECT TOOLS.** When not in use, before servicing, and when changing accessories, such as blades, bits, cutters.

14. **REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
15. **AVOID UNINTENTIONAL STARTING.** Don't carry tool with finger on switch. Be sure switch is OFF when plugging in.
16. **EXTENSION CORDS.** Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. Table 1 shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gage. The smaller the gage number, the heavier the cord.

**TABLE 1 MINIMUM GAGE FOR CORD SETS**

			Total Length of Cord in Feet			
			0 – 25	26 – 50	51 – 100	101 – 150
Ampere Rating More Than	—	Not More Than	A W G			
0	—	6	18	16	16	14
6	—	10	18	16	14	12
10	—	12	16	16	14	12
12	—	16	14	12	Not Recommended	

17. **OUTDOOR USE EXTENSION CORDS.** When tool is used outdoors, use only extension cords intended for use outdoors and so marked.
18. **STAY ALERT.** Watch what you are doing, use common sense. Don't operate tool when you are tired.
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 by an authorized service center unless otherwise indicated elsewhere in this instruction manual. Have defective switches replaced by authorized service center. Don't use tool if switch does not turn it on and off.
20. **GUARD AGAINST ELECTRIC SHOCK.** Prevent body contact with grounded surfaces. For example; pipes, radiators, ranges, refrigerator enclosures.
21. **REPLACEMENT PARTS.** When servicing, use only identical replacement parts.
22. **POLARIZED PLUGS.** To reduce the risk of electric shock, this equipment has a polarized plug (one blade is wider than the other). This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install the proper outlet. Do not change the plug in any way.

**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 FOR SANDER**

- 1. Check the backing pad carefully for cracks, damage or deformity before operation. Replace cracked, damaged or deformed pad immediately.**
- 2. Hold the tool firmly.**
- 3. Keep hands away from rotating parts.**
- 4. Make sure abrasive disc is not contacting the workpiece before the switch is turned on.**
- 5. Do not leave the tool running. Operate the tool only when hand-held.**
- 6. Do not touch the workpiece immediately after operation; it may be extremely hot and could burn your skin.**

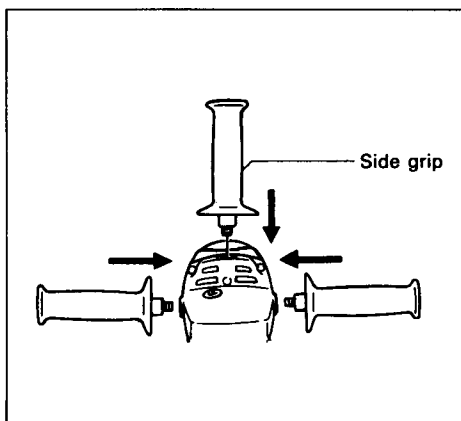
## **ADDITIONAL SAFETY RULES FOR GRINDER**

- 1. Keep guards in place.**
- 2. Use only wheels having a maximum operating speed at least as high as “No Load RPM” marked on the tool’s nameplate. When using depressed center wheels, be sure to use only fiberglass-reinforced wheels.**
- 3. Check the wheel carefully for cracks or damage before operation. Replace cracked or damaged wheel immediately.**
- 4. Use only flanges specified for this tool.**
- 5. Be careful not to damage the spindle, the flange (especially the installing surface) or the lock nut. Damage to these parts could result in wheel breakage.**
- 6. Hold the tool firmly.**
- 7. Keep hands away from rotating parts.**
- 8. Make sure the wheel is not contacting the workpiece before the switch is turned on.**
- 9. 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 wheel.**
- 10. Use the specified surface of the wheel to perform the grinding.**
- 11. Watch out for flying sparks. Hold the tool so that sparks fly away from you and other persons or flammable materials.**
- 12. Do not leave the tool running. Operate the tool only when hand-held.**
- 13. Do not touch the workpiece immediately after operation; it may be extremely hot and could burn your skin.**

**SAVE THESE INSTRUCTIONS.**

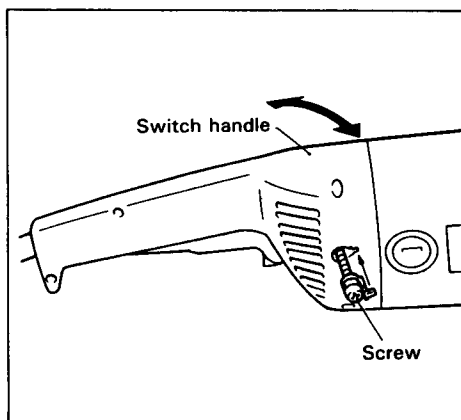
### Installing side grip (auxiliary handle)

Always install the side grip on the machine securely before operation. The side grip can be installed in any of three positions on the sides of the machine, whichever is convenient and keeps the guard properly positioned. Always hold the machine's switch handle and the side grip firmly with both hands during operation.



### Switch handle mounting positions

The switch handle can be rotated to either 90° left or right to fit your work needs. To change the position, first unplug the machine from the power source. Remove only the screw which secures the middle of the switch handle. Rotate the switch handle to the desired angle (90° left or right). Insert the screw into the hole in the middle of the switch handle. Make sure that the switch handle is secured and then tighten the screw firmly.



### WARNING:

Position switch handle mounting angle and side grip only in such a way that grinding wheel will not contact any part of your body and that wheel guard always remains positioned as a barrier between the grinding wheel and the operator. Failure to do so may result in serious injury.

### CAUTION:

Never mount the switch handle at any other angles than 0° (original mounting angle), 90° left of right. Reposition the side grip if necessary to assure firm and proper control of the machine.

### Installing or removing abrasive disc

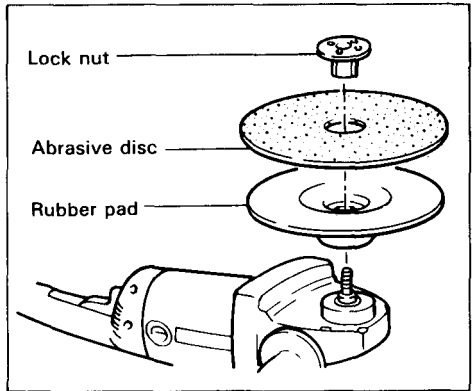
#### CAUTION:

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

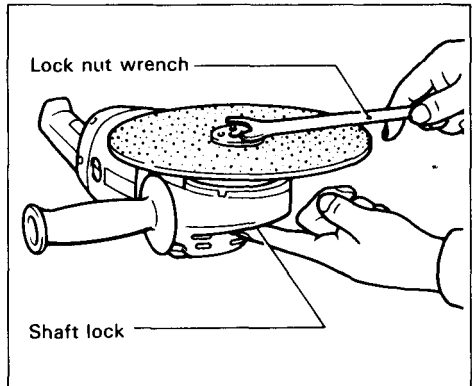
#### NOTE:

Use sander accessories specified in this manual. These must be purchased by separate.

Mount the rubber pad onto the spindle. Fit the disc on over the rubber pad and screw the lock nut onto the spindle.



To tighten the lock nut, press the shaft lock firmly so that the spindle cannot revolve, then use the lock nut wrench and securely tighten clockwise.



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

## IF USED AS A GRINDER

### NOTE:

Use grinder accessories specified in this manual. These must be purchased separately.

### WARNING:

Always use guard assembly or accessory kit, noted below, for type 27 depressed center wheel.

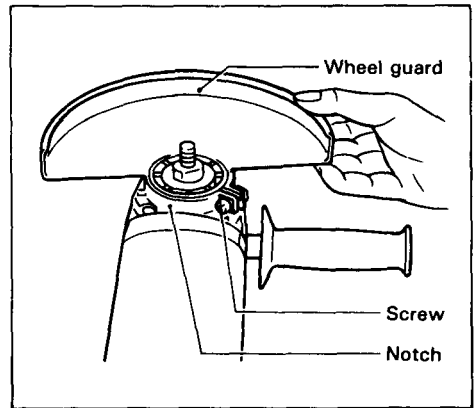
#### Guard assembly

Part No. 192413-0 ... For 180 mm (7")

Part No. 192414-8 ... For 230 mm (9")

### Installing wheel guard

When using a depressed center wheel, always use a wheel guard. Mount the wheel guard with the tab on the wheel guard band aligned with the notch on the bearing box. Then rotate the wheel guard 160 degrees counter-clockwise. Be sure to tighten the screw securely.





## Installing or removing depressed center wheel

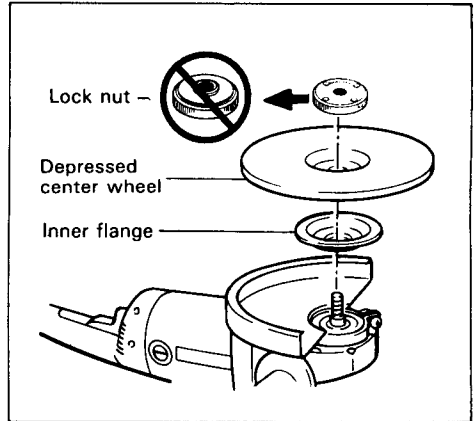
### CAUTION:

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

Mount the inner flange onto the spindle. Fit the wheel on over the inner flange and screw the lock nut onto the spindle.

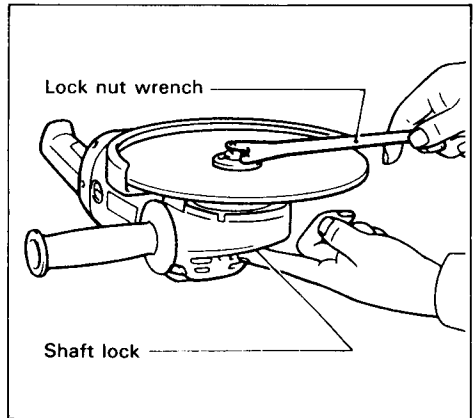
Use only lock nut part no. 192568-1, equipped with tool.

Install locknut as shown, with locknut wrench holes facing out.



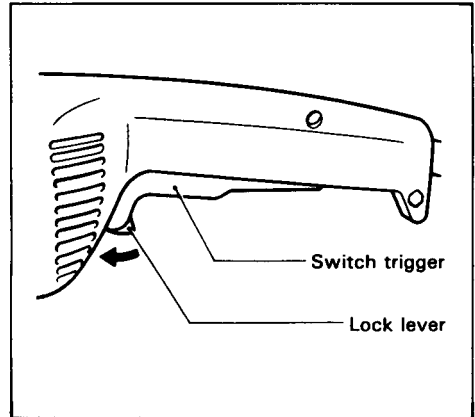
To tighten the lock nut, press the shaft lock firmly so that the spindle cannot revolve, then use the lock nut wrench and securely tighten clockwise.

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



### Switch action

To start the tool, simply pull the trigger. Release the trigger to stop. For continuous operation, pull the trigger and then push in the lock lever. To stop the tool from the locked position, pull the trigger fully, then release it.



### CAUTION:

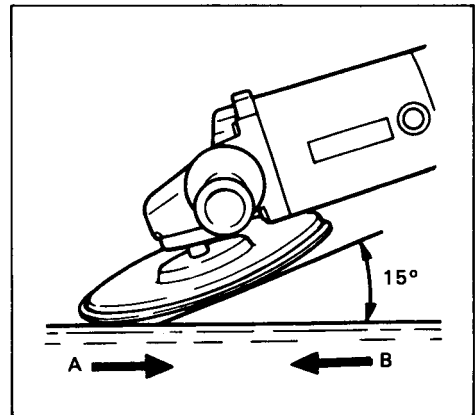
Before plugging in the tool, always check to see that the switch trigger actuates properly and returns to the "OFF" position when released.

### Operation

Hold the tool firmly. Turn the tool on and then apply the wheel or disc to the work-piece.

In general, keep the edge of the wheel or disc at an angle of about  $15^\circ$  to the work-piece surface.

During the break-in period with a new wheel, do not work the grinder in the B direction or it will cut into the workpiece. Once the edge of the wheel has been rounded off by use, the wheel may be worked in both A and B directions.



### WARNING:

- It should never be necessary to force the tool. The weight of the tool applies adequate pressure. Forcing and excessive pressure could cause dangerous wheel breakage.
- Continued use of a worn-out wheel may result in wheel explosion and serious personal injury. Depressed center wheel should not be used after it has been worn down to 115 mm (4-1/2") in diameter. Use of the wheel after this point is unsafe and it should be removed from service and rendered unusable by intentional destruction.

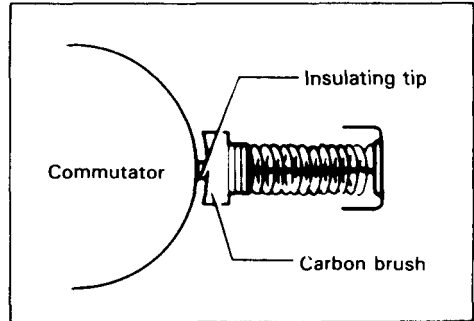
## MAINTENANCE

### CAUTION:

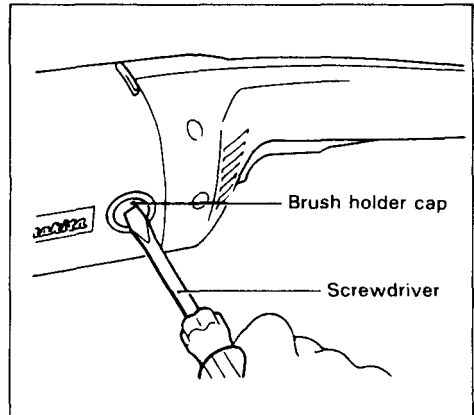
Always be sure that the tool is switched off and unplugged before attempting to perform inspection or maintenance.

### Replacing carbon brushes

When the resin insulating tip inside the carbon brush is exposed to contact the commutator, it will automatically shut off the motor. When this occurs, 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.

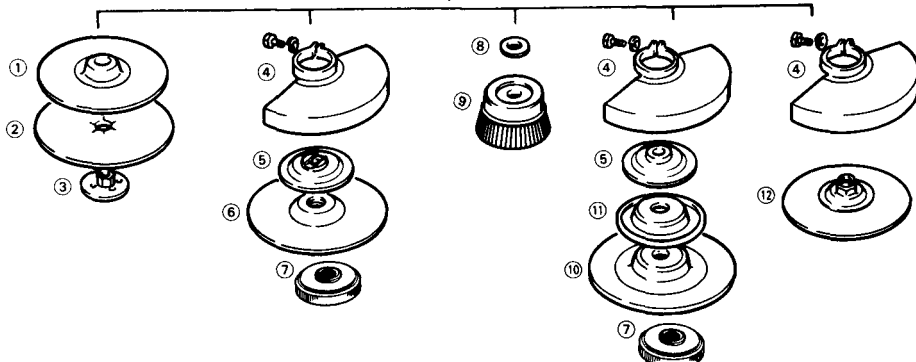
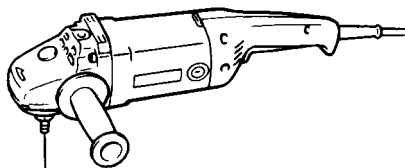


To maintain product SAFETY and RELIABILITY, repairs, any other maintenance or adjustment should be performed by Makita Authorized or Factory Service Centers, always using Makita replacement parts.

## 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.



- ① **Rubber pad 170 mm (6-3/4")**  
Part No. 743012-7



- ② **Abrasive disc (5 per pkg)**



Part No.	Grit	Diameter (mm)
742067-A-5	16	180 (7")
742069-A-5	24	
742089-A-5	36	
742070-A-5	50	
742071-A-5	80	
742091-A-5	120	

- ④ **Guard assembly**



Part No.	Size (mm)
192413-0	180 (7")
192414-8	230 (9")

- ⑤ **Inner flange 89**  
(For depressed center wheel)  
Part No. 224315-3



- ③ **Lock nut 48** (For abrasive discs)  
Part No. 224517-1



⑥ (A) Depressed center wheel (1 per pkg)



Part No.	Grit	Size (mm)
741413-3	24	180 x 6 x 22 (7" x 1/4" x 7/8")
741421-4	24	230 x 6 x 22 (9" x 1/4" x 7/8")

(B) Makita zirconate (5 per pkg)



Part No.	Grit	Size (mm)
741313-7A	24	180 x 6 x 22 (7" x 1/4" x 7/8")

(C) Best edge (5 per pkg)



Part No.	Grit	Size (mm)
741413-6A	24	180 x 3 x 22 (7" x 1/8" x 7/8")

⑦ Lock nut 45

(For depressed center wheel)

Part No. 192568-1



⑧ Urethane washer 14

Part No. 261039-0



When using wire brush, mount urethane washer 14 to the spindle. It will make it easier to remove wire brush.

⑨ Wire cup brush



Part No.	Diameter (mm)
743206-A	150 (6")
743206-B	

⑩ Flexible grinding wheel (10 per pkg)



Part No.	Grit	Size (mm)
741445-0	36	180 x 3 x 22 (7" x 1/8" x 7/8") (includes one back up pad, ⑪ Part No. 743027-4)
741441-8	46	
741442-6	60	
741443-4	80	
741444-2	120	

⑫ Hubbed grinding wheel



Part No.	Grit	Size
741414-A	A24R	7" x 1/4" x 5/8"

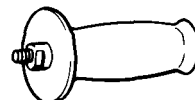
• Lock nut wrench 28

Part No. 782412-6

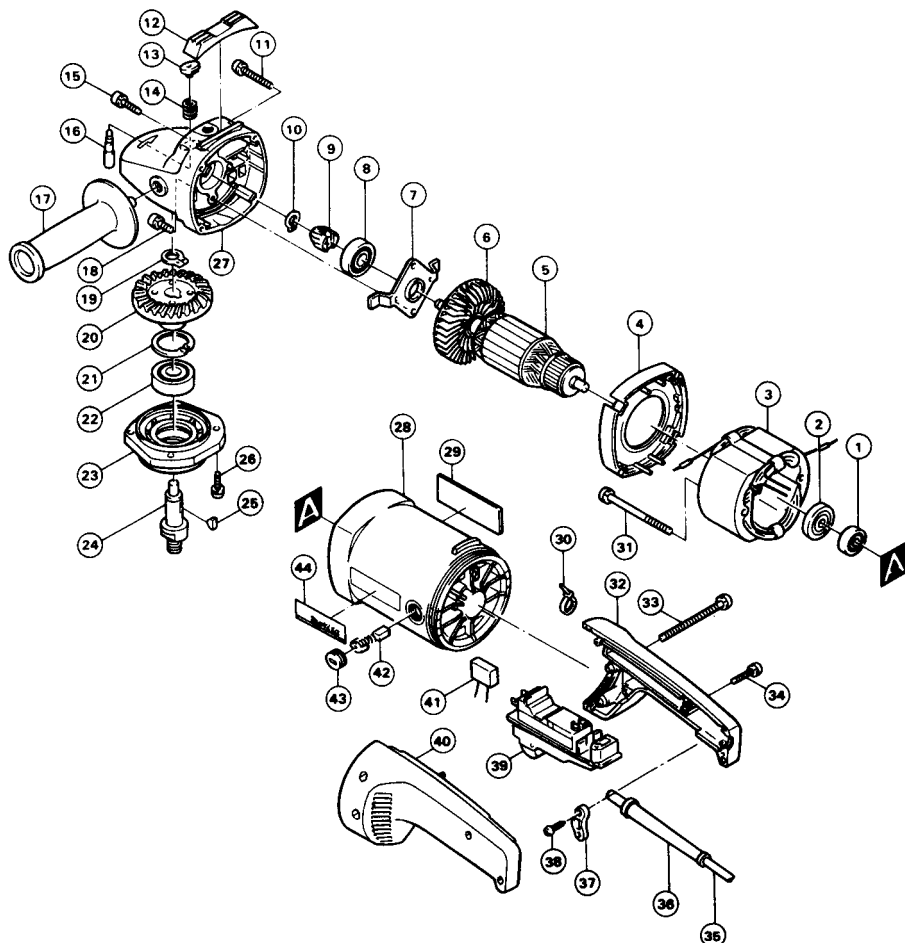


• Grip 35

Part No. 273503-9



# ANGLE SANDER Model 9020L



Note: The switch, noise suppressor and other part configurations may differ from country to country.

ITEM NO.	NO. USED	DESCRIPTION	ITEM NO.	NO. USED	DESCRIPTION
<u>MACHINE</u>			<u>MACHINE</u>		
1	1	Ball Bearing 6200DDW	22	1	Ball Bearing 6203DDW
2	1	Insulation Washer	23	1	Bearing Box
3	1	Field	24	1	Spindle
4	1	Baffle Plate	25	1	Woodruff Key 4
5	1	ARMATURE ASSEMBLY (With Item 1, 2 & 6)	26	4	Pan Head Screw M5x16 (With Washer)
6	1	Fan 80	27	1	Gear Housing
7	1	Bearing Retainer 57	28	1	MOTOR HOUSING ASSEMBLY
8	1	Ball Bearing 6301DDW	29	1	Name Plate
9	1	Spiral Bevel Gear 12	30	1	Band
10	1	Retaining Ring S-9	31	2	Pan Head Screw M5x70 (With Washer)
11	4	Pan Head Screw M5x40 (With Washer)	32	1	Handle Set (With Item 45)
12	1	Tool Rest	33	1	Pan Head Screw M6x85
13	1	Pin Cap	34	4	Pan Head Screw M4x25 (With Washer)
14	1	Compression Spring 12	35	1	Cord
15	1	Hex. Socket Head Bolt M5x20	36	1	Cord Guard
16	1	Pin 6	37	1	Strain Relief
17	1	Grip 35	38	2	Tapping Screw 4x18
18	1	Hex. Socket Head Bolt M5x10	39	1	Switch
19	1	Retaining Ring S-17	40	1	Handle Set (With Item 36)
20	1	Spiral Bevel Gear 50	42	2	Carbon Brush
21	1	Retaining Ring R-40	43	2	Brush Holder Cap
			44	1	Makita Mark

Note: The switch and other part specifications may differ from country to country.

## **MAKITA LIMITED ONE YEAR WARRANTY**

### **Warranty Policy**

Every Makita tool is thoroughly inspected and tested before leaving the factory. It is warranted to be free of defects from workmanship and materials for the period of ONE YEAR from the date of original purchase. Should any trouble develop during this one-year period, return the COMPLETE tool, freight prepaid, to one of Makita's Factory or Authorized Service Centers. If inspection shows the trouble is caused by defective workmanship or material, Makita will repair (or at our option, replace) without charge.

This Warranty does not apply where:

- repairs have been made or attempted by others;
- repairs are required because of normal wear and tear;
- The tool has been abused, misused or improperly maintained;
- alterations have been made to the tool.

IN NO EVENT SHALL MAKITA BE LIABLE FOR ANY INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES FROM THE SALE OR USE OF THE PRODUCT. THIS DISCLAIMER APPLIES BOTH DURING AND AFTER THE TERM OF THIS WARRANTY.

MAKITA DISCLAIMS LIABILITY FOR ANY IMPLIED WARRANTIES, INCLUDING IMPLIED WARRANTIES OF "MERCHANTABILITY" AND "FITNESS FOR A SPECIFIC PURPOSE," AFTER THE ONE-YEAR TERM OF THIS WARRANTY.

This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you.

**MAKITA MANUFACTURING EUROPE LTD**  
**TELFORD, SHROPSHIRE, U.K.**