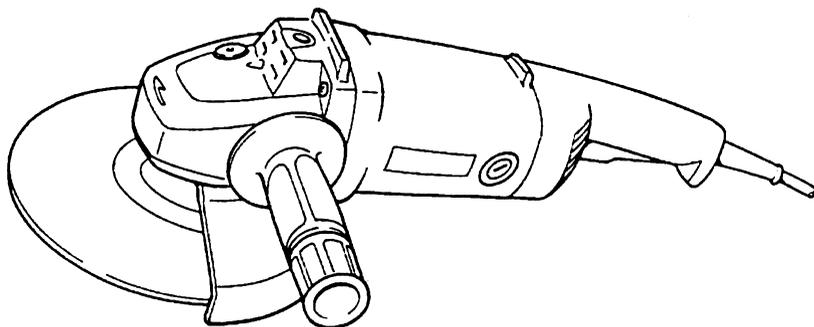




Angle Grinder

180 mm (7") MODEL 9047/9047S 9047F/9047SF
180 mm (7") MODEL 9057/9057S 9057F/9057SF
230 mm (9") MODEL 9049/9049S 9049F/9049SF
230 mm (9") MODEL 9059/9059S 9059F/9059SF



**DOUBLE
INSULATION**

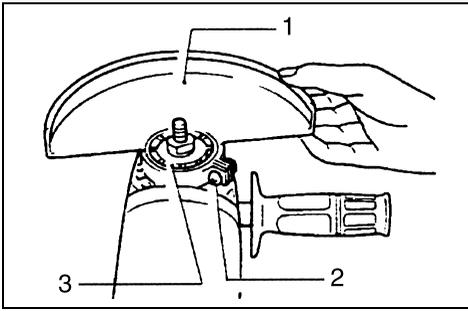
SPECIFICATIONS

Model	9047/9047S 9047F/9047SF	9057/9057S 9057F/9057SF	9049/9049S 9049F/9049SF	9059/9059S 9059F/9059SF
Depressed center wheel diameter	180 mm (7")	180 mm (7")	230 mm (9")	230 mm (9")
No load speed (min ⁻¹)	8,500	8,500	6,600	6,600
Overall length	470 mm (18-1/2")	470 mm (18-1/2")	470 mm (18-1/2")	470 mm (18-1/2")
Net weight	4.8 kg (10.5 lbs)	5.1 kg (11.2 lbs)	4.8 kg (10.5 lbs)	5.1 kg (11.2 lbs)

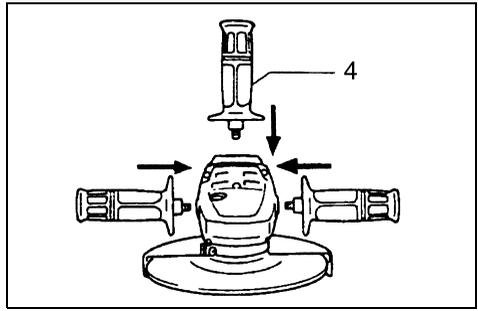
- Due to our continuing program of research and development, the specifications herein are subject to change without notice.
- Note: Specifications may differ from country to country.

Power supply

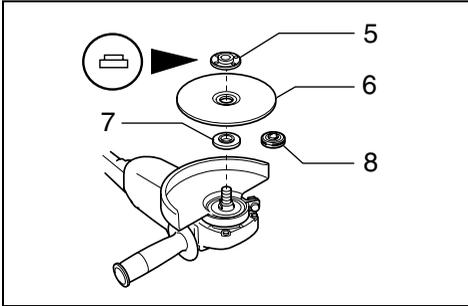
The tool should be connected only to a power supply of the same voltage as indicated on the nameplate, and can only be operated on single-phase AC supply. They are double-insulated in accordance with European Standard and can, therefore, also be used from sockets without earth wire.



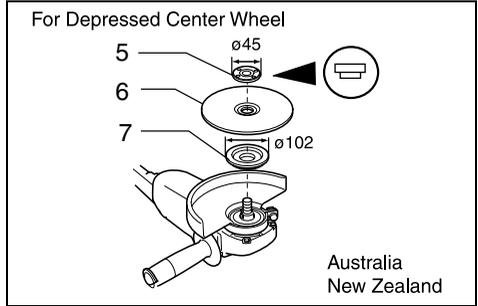
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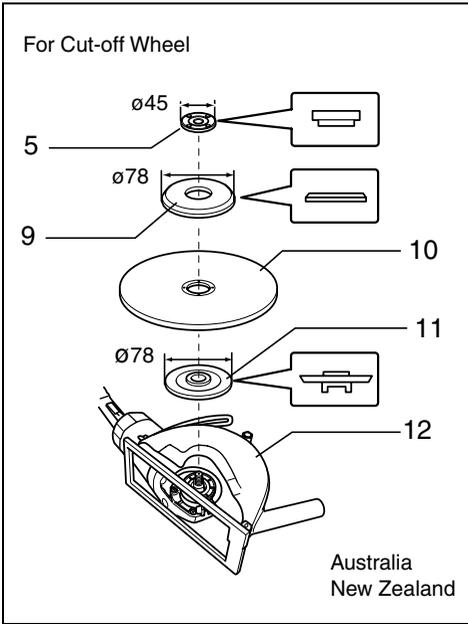
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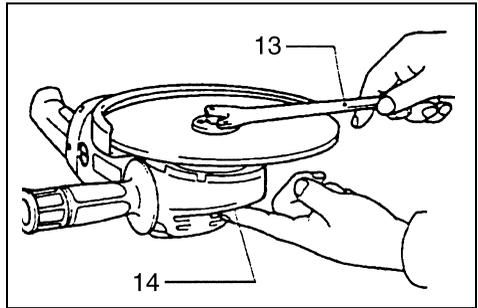
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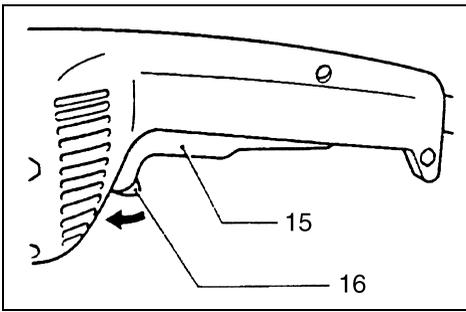
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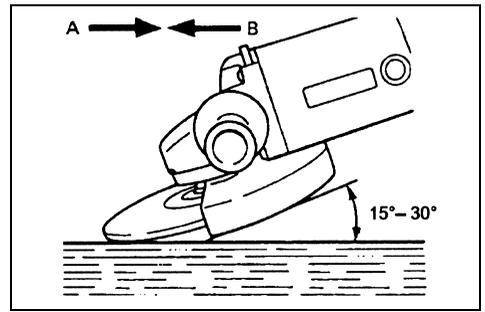
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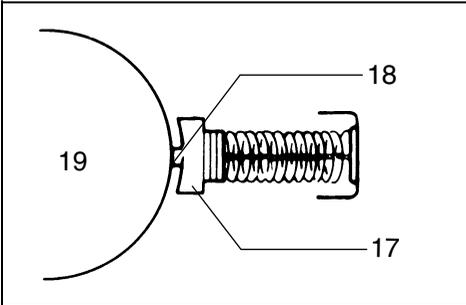
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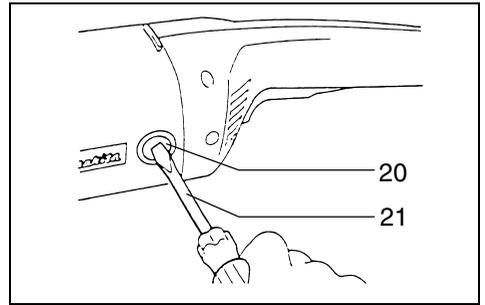
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8



9



10

Symbols

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

-  Read instruction manual.
-  DOUBLE INSULATION

Explanation of general view

1 Wheel guard	9 Outer flange 78	16 Lock lever
2 Screw	10 Cut-off wheel	17 Carbon brush
3 Notch	11 Inner flange 78	18 Insulation tip
4 Side grip	12 Dust collecting wheel guard (optional accessory)	19 Commutator
5 Lock nut	13 Lock nut wrench	20 Brush holder cap
6 Depressed center wheel	14 Shaft lock	21 Screwdriver
7 Inner flange	15 Switch trigger	
8 Super flange		

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.

ADDITIONAL SAFETY RULES

ENB031-5

1. **Always use eye and ear protection. Other personal protective equipment such as dust mask, gloves, helmet and apron should be worn when necessary. If in doubt, wear the protective equipment.**
2. **Always be sure that the tool is switched off and unplugged before carrying out any work on the tool.**
3. **Keep guards in place.**
4. **Use only wheels with correct size and wheels having a maximum operating speed at least as high as the highest No Load Speed marked on the tool's nameplate. When using depressed centre wheels, be sure to use only fiberglass-reinforced wheels.**
5. **Check the wheel carefully for cracks or damage before operation. Replace cracked or damaged wheel immediately.**
6. **Observe the instructions of the manufacturer for correct mounting and use of wheels. Handle and store wheels with care.**
7. **Do not use separate reducing bushings or adaptors to adapt large hole abrasive wheels.**
8. **Use only flanges specified for this tool.**
9. **Do not damage the spindle, the flange (especially the installing surface) or the lock nut. Damage to these parts could result in wheel breakage.**
10. **For tools intended to be fitted with threaded hole wheel, ensure that the thread in the wheel is long enough to accept the spindle length.**
11. **Before using the tool on an actual workpiece, test run the tool at the highest no load speed for at least 30 seconds in a safe position. Stop immediately if there is any vibration or wobbling that could indicate poor installation or a poorly balanced wheel. Check the tool to determine the cause.**
12. **Check that the workpiece is properly supported.**
13. **Hold the tool firmly.**
14. **Keep hands away from rotating parts.**
15. **Make sure the wheel is not contacting the workpiece before the switch is turned on.**
16. **Use the specified surface of the wheel to perform the grinding.**
17. **Do not use cutting off wheel for side grinding.**

18. **Watch out for flying sparks. Hold the tool so that sparks fly away from you and other persons or flammable materials.**
19. **Pay attention that the wheel continues to rotate after the tool is switched off.**
20. **Do not touch the workpiece immediately after operation; it may be extremely hot and could burn your skin.**
21. **Position the tool so that the power cord always stays behind the tool during operation.**
22. **If working place is extremely hot and humid, or badly polluted by conductive dust, use a short-circuit breaker (30 mA) to assure operator safety.**
23. **Do not use the tool on any materials containing asbestos.**
24. **Do not use water or grinding lubricant.**
25. **Ensure that ventilation openings are kept clear when working in dusty conditions. If it should become necessary to clear dust, first disconnect the tool from the mains supply (use non metallic objects) and avoid damaging internal parts.**
26. **When use cut-off wheel, always work with the dust collecting wheel guard required by domestic regulation.**
27. **Cutting discs must not be subjected to any lateral pressure.**

SAVE THESE INSTRUCTIONS.

OPERATING INSTRUCTIONS

Installing wheel guard (Fig. 1)

CAUTION:

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

When installing a depressed center wheel or a cut-off 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 counterclockwise. Be sure to tighten the screw securely.

Installing side grip (auxiliary handle) (Fig. 2)

CAUTION:

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

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

Installing or removing depressed center wheel (Fig. 3, 4 & 6)

Important:

Always be sure that the tool 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.

For Australia and New Zealand

Screw the lock nut with its protrusion facing downward (facing toward the wheel).

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.

NOTE:

Super flange

Models 9047F, 9057F, 9049F, 9059F, 9047SF, 9057SF, 9049SF and 9059SF are standard-equipped with a super flange.

Only 1/3 of efforts needed to undo lock nut, compared with conventional type.

Installing or removing cut-off wheel (Fig. 5 & 6)

For Australia and New Zealand

Mount the inner flange onto the spindle. Fit the cut-off wheel on over the inner flange.

Mount the outer flange on the wheel and screw the lock nut with its protrusion facing downward (facing toward the wheel).

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 (Fig. 7)

CAUTION:

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

For U.K., Australia, France and Algeria

To prevent the trigger from being accidentally actuated, a lock lever is provided. To start the tool, push the lock lever in and then pull the trigger. Release the trigger to stop.

For Germany, Austria, Italy, Netherlands, Belgium, Spain, Portugal, Denmark, Sweden, Norway, Finland and Greece

To prevent the trigger from being accidentally actuated, a lock lever is provided. To start the tool, push the lock lever in and then pull the trigger. Release the trigger to stop. For continuous operation, push the lock lever in, pull the trigger and then push the lock lever further in. To stop the tool from the locked position, pull the trigger fully, then release it.

For other countries than the above countries

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

NOTE:

Models 9047S, 9057S, 9049S, 9059S, 9047SF, 9057SF, 9049SF and 9059SF begin to run slowly when they are turned on. This soft start feature assures smoother operation and less operator fatigue.

Operation (Fig. 8)

CAUTION:

After operation, always switch off the tool and wait until the wheel has come to a complete stop before putting the tool down.

Hold the tool firmly. Turn the tool on and then apply the wheel or disc to the workpiece.

In general, keep the edge of the wheel or disc at an angle of about 15°–30° to the workpiece surface. During the break-in period with a new wheel, do not work the tool 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 carrying out any work on the tool.

Replacement of carbon brushes (Fig. 9 & 10)

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.

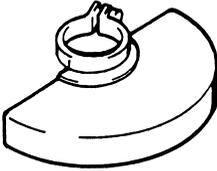
To maintain product safety and reliability, repairs, maintenance or adjustment should be carried out by a Makita Authorized Service Center.

ACCESSORIES

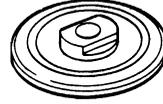
CAUTION:

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.

- Wheel guard



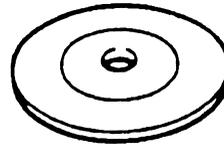
- Inner flange 78 (For cut-off wheel)



- Depressed center wheel



- Cut-off wheel



- Inner flange 42
(For depressed center wheel)



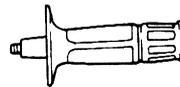
- Wire cup brush 110



- Lock nut 45
(For depressed center wheel & cut-off wheel)



- Side grip

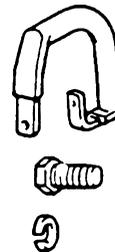
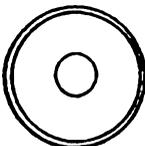


- Lock nut wrench 35

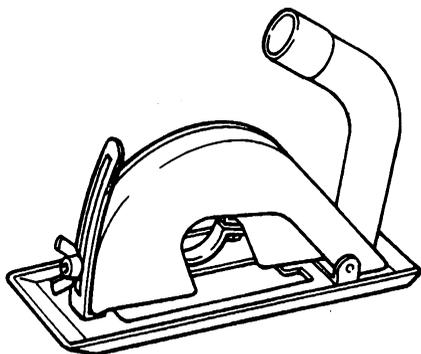


- Loop handle

- Outer flange 78 (For cut-off wheel)



- Dust collecting wheel guard



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884062C4