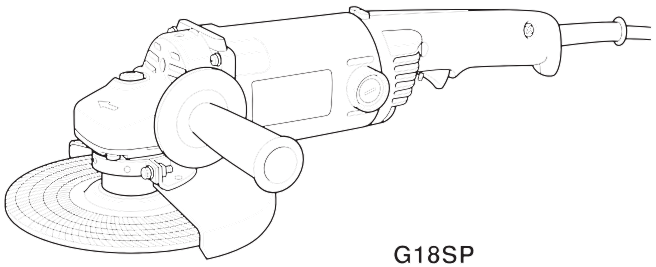
HiKOKI

DISC GRINDER
MODEL G 18SP · G 15SP
HANDLING INSTRUCTIONS



G18SP

Note:
Before using this Electric Power Tool, carefully read through these HANDLING INSTRUCTIONS to ensure efficient, safe operation. It is recommended that these INSTRUCTIONS be kept readily available as an important reference when using this power tool.

GENERAL OPERATIONAL PRECAUTIONS

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 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 saw 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 eye 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 receptacle. Keep the cord away from heat, oil and sharp edges.
12. Secure work. Use clamps or a vise to hold the work. It is safer than using your hand and it frees both hands to operate 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 safar performance. Follow instructions for lubrication and changing accessories. Inspect tool cords periodically and if damaged, have it repaired by authorized service center. 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 handling instructions. Have defective switches replaced by an authorized service center. 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 handling instructions, 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.

PRECAUTIONS ON USING DISC GRINDER

1. Never operate these power tools without Wheel Guards.
2. Use only depressed center wheels with a "Safe Speed" of at least as high as the "No-Load Speed" indicaed on the power tool nameplate.
3. Always hold the body handle and side handle of the power tool firmly. Otherwirse the counterforce produced may result in inaccurate and even dangerous operation.
4. Never depress the push button while the spindle is turning.

SPECIFICATIONS

Model		G18SP	G15SP
Voltage (by areas)*		(220V, 230V, 240V) ~	
Power Input*		1140W	1050W
No-load speed		6800 /min	8000 /min
Wheel	Outer dia.	180mm	150mm
	Hole dia.	22mm	
	Peripheral speed	4300m/min	
Weigth (only main body)		3.3 kg	3.2 kg

*Be sure to check the nameplate on product as it is subject to change by areas.

STANDARD ACCESSORIES

(1) Depressed Center Wheel 1
(2) Wrench 1
(3) Side Handle 1
Standard accessories are subject to change without notice.

APPLICATIONS

- Removal of casting fin and finishing of various types of steel, bronze and aluminum materials and castings.
- Grinding of welded sections or sections cut by means of an acetylene torch.
- Grinding of synthetic resins, slate, brick, marble, etc.
- Cutting of synthetic concrete, stone, brick, marble, and similar materials.

PRIOR TO OPERATION

1. **Power source**
   Ensure that the power source to be utilized conforms to the power requirements specified on the product nameplate.
2. **Power switch**
   Ensure that the power switch is in the OFF position. If the plug is connected to a power receptacle while the power switch is in the ON position, the power tool will start operating immediately, which could cause a serious accident.
3. **Extension cord**
   When the work area is removed from the power source, use an extension cord of sufficient thickness and rated capacity. The extension cord should be kept as short as practicable.
4. **Confirming condition of the environment**
   Confirm that the work site is placed under appropriate conditions comforming to prescribed precautions.
   When grinding a thin steel plate, depending upon the state of the workbench, a loud noise will be created due to resounding noise from the steel plate being ground. To eliminate nuwanted noise in this instance, place a rubber mat beneath the material to be ground.
5. **Fitting and adjusting the wheel guard**
   The wheel guard is a protective device to prevent injury should the depressed center wheel be shattered during operation. Ensure that the wheel guard is properly fitted and fastened before commencing grinding operation.
   By slightly loosening the setting screw, the wheel guard can be turned and set at any desired angle for maximum operational effectiveness. Ensure that the setting screw is thoroughly tightended after adjusting the wheel guard.
6. Ensure that the depressed center wheel to be utilized is the correct type and free of cracks or surface defects.
   Also ensure that the depressed center wheel is properly mounted and the wheel nut is securely tighened.
   Refer to the section on "ASSEMBLING AND DISASSEMBLING THE DERPESSED CENTER WHEEL".
7. **Conducting a trial run**
   Before commencing grinding operation, the grinder should be given a trial run in a safe area to ensure that it is properly assembled and that the depressed center wheel is free from obvious defects.
   Recommended trial run durations are as follows:
   After replacing depressed center wheel
   .....3 minutes or more
   Prior to starting routine work
   .....1 minutes or more
8. **Confirm the spindle lock mechanism.**
   Confirm that the spindle lock is disengaged by pushing push button two or three times before switching the power tool on (See **Fig. 1**)
9. **Fixing the side handle.**
   Screw the side handle into the gear cover.

PRACTICAL GRINDER APPLICATION

1. **Pressure**
   To prolong the life of the grinder and ensure a first class finish, it is important that the grinder should not be overloaded by applying too much pressure.

In most applications, the weight of the grinder alone is suffcient for effective grinding. Too much pressure will rest in reduced rotational speed, inferior surface finish, and overloading which could reduce the life of the grinder.

2. Grinding angle

Do not apply the entire surface of the depressed center wheel to the material to be ground. As shown in Fig. 1, the grinder should be held at an angle of 15 -30 so that the external edge of the depressed center wheel contacts the material at an optimum angle.

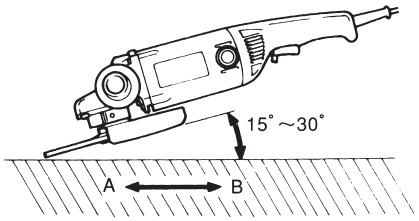


Fig. 1

3. To prevent a new depressed center wheel from digging into the workpiece, initial grinding should be performed by drawing the grinder across the workpiece toward the operator (**Fig. 1 direction B**). Once the leading edge of the depressed center wheel is properly abraded, grinding may be conducted in the either direction.

4. Switch operation

This enables the grinder always to be controlled with the hand gripping the machine for maximum safety during grinding operations.

Intermittent use

Switch ON: Press the switch lever.

Switch OFF: Release the switch lever.

〈Continuous use〉

Switch ON: Press the switch lever. The switch lever is locked by pull the locking button.

Switch OFF: Press and release the swich lever.

5. Precautions immediately after finishing operation

After switching off the grinder, do not put it down until the depressed center wheel has come to a complete stop. Apart from avoiding serious accidents, this precaution will reduce the amount of dust and swarf sucked into the grinder.

CAUTION

When the grinder is not in use, the power source should be disconnected.

ASSEEMBLING AND DISASSEMBLING THE DEPRESSED CENTER WHEEL (Fig. 2)

CAUTION: Be sure to switch power OFF and disconnect the plug from the receptacle to avoid serious trouble.

1. Assembling (Fig. 2)

(1) Turn the grinder upsidedown so that the spindle is facing upward.

(2) Mount the superwasher onto the spindle.

(3) Fit the protuberance of the depressed center wheel or diamond wheel onto the superwasher.

(4) Assemble the wheel nut onto the spindle. (For diamond wheel assembling, use the wheel nut with the convex side against the diamond wheel.)

(5) Insert the push button to prevent rotation of the spindle, and tighten the wheel nut with accessory wrench, as shown in Fig. 2.

2. Disassembling

Follow the above procedures in reverse.

CAUTIONS: Comfirm that the depressed center wheel is mounted firmly.

Confirm that the spindle lock mechanism is disengaged by pushing push button two or three times before switching the grinder on.

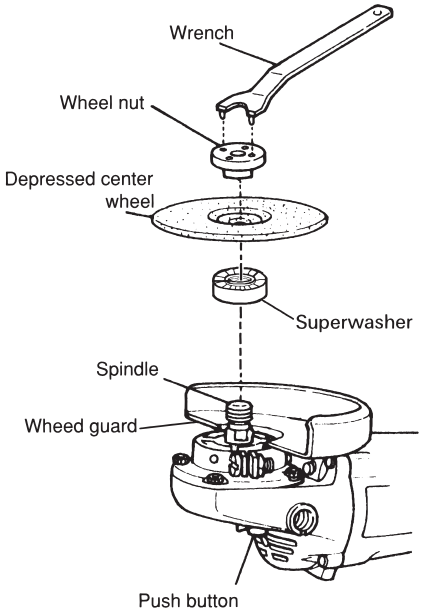
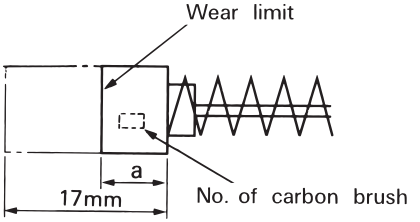


Fig. 2

MAINTENANCE AND INSPECTION

1. **Inspecting the depressed center wheel**
   Ensure that the depressed center wheel is free of cracks and surface defects.
2. **Inspecting the mounting screws:**
   Regularly inspect all mounting screws and ensure that they are properly tightened. Should any of the screws be loosened, retighten them immediately.
   Failure to do so could result in serious hazard.
3. **Inspecting the carbon brushes (Fig. 3)**
   The Motor employs carbon brushes which are consumable parts.
   When they become worn to or near the "wear limit", it could result in motor trouble. When an auto-shop carbon brush is equipped, the motor will stop automatically.
   At that time, replace both carbon brushes with new ones which have the same carbon brush Numbers shown in the figure. In addition, always keep carbon brushes clean and ensure that they slide freely within the brush holders.



	No. of carbon brush	a
Usual carbon brush	43	6mm
Auto-stop carbon brush	71	7mm

Fig. 3

4. **Replacing carbon brushes**
   Disassemble the brush caps with a screwdriver. The carbon brushes can then be easily removed.
5. **Maintenance of the motor**
   The motor unit winding is the very "heart" of the power tool. Exercise due care to ensure the winding does not become damaged and or wet with oil or water.

NOTE
Due to HiKOKI's continuing program of research and development, the specifications herein are subject to change without prior notice.

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