

ENGLISH



Manuelt # 349

Angle Grinder 230mm/9"

Risk Assessment # 246

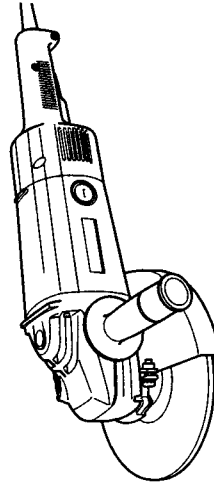
MODEL 9077

MODEL 9077S

MODEL 9077SL

MODEL 9079 - 0602

MODEL 9079S



001012



I N S T R U C T I O N M A N U A L

⚠ WARNING:

For your personal safety, READ and UNDERSTAND before using.
SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

SPECIFICATIONS

Model	9077/9077S	9077SL	9079/9079S
Depressed center wheel diameter	180 mm	180 mm	230 mm
Spindle thread	M14	M14	M14
No load speed (min ⁻¹)	7,800	6,000	6,000
Overall length	484 mm	484 mm	484 mm
Net weight	5.3 kg	5.3 kg	5.3 kg
Safety class	II / I		

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

Symbols

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



.....Read instruction manual.



.....DOUBLE INSULATION



.....Wear safety glasses.

Intended use

The tool is intended for grinding, sanding and cutting of metal and stone materials without the use of water.

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.

For public low-voltage distribution systems of between 220 V and 250 V.

Switching operations of electric apparatus cause voltage fluctuations. The operation of this device under unfavorable mains conditions can have adverse effects to the operation of other equipment. With a mains impedance equal or less than 0.25 Ohms it can be presumed that there will be no negative effects. The mains socket used for this device must be protected with a fuse or protective circuit breaker having slow tripping characteristics.

For European countries only

Noise and Vibration

The typical A-weighted noise levels are

sound pressure level: 88 dB (A)

sound power level: 101 dB (A)

– Wear ear protection. –

The typical weighted root mean square acceleration value is 3 m/s².

EC-DECLARATION OF CONFORMITY

We declare under our sole responsibility that this product is in compliance with the following standards of standardized documents, HD400, EN50144, EN55014, EN61000 in accordance with Council Directives, 73/23/EEC, 89/336/EEC, 98/37/EC.

Yasuhiko Kanzaki CE 2002

Director

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SAFETY INSTRUCTIONS

ENJA001-2

⚠ 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:

- Keep work area clean.**
Cluttered areas and benches invite injuries.
- 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.
- Guard against electric shock.**
Avoid body contact with earthed or grounded surfaces (e.g. pipes, radiators, ranges, refrigerators).
- Keep children away.**
Do not let visitors touch the tool or extension cord. All visitors should be kept away from work area.
- Store idle tools.**
When not in use, tools should be stored in a dry, high or locked up place, out of reach of children.
- Do not force the tool.**
It will do the job better and safer at the rate for which it was intended.
- 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.
- 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.
- Use safety glasses and hearing protection.**
Also use face or dust mask if the cutting operation is dusty.
- Connect dust extraction equipment.**
If devices are provided for the connection of dust extraction and collection facilities ensure these are connected and properly used.
- 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.
- 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.
- Do not overreach.**
Keep proper footing and balance at all times.
- 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.
- Disconnect tools.**
When not in use, before servicing and when changing accessories such as blades, bits and cutters.
- 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.
- Avoid unintentional starting.**
Do not carry a plugged-in tool with a finger on the switch. Ensure switch is off when plugging in.
- Use outdoor extension leads.**
When tool is used outdoors, use only extension cords intended for outdoor use.
- Stay alert.**
Watch what you are doing. Use common sense. Do not operate tool when you are tired.
- 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.
- 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.
- 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

1. Always use eye and ear protection. Other personal protective equipment such as dust mask, gloves, helmet and apron should be worn.
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 center 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.

ENB031-6

FUNCTIONAL DESCRIPTION

⚠ CAUTION:

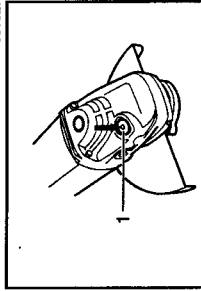
- Always be sure that the tool is switched off and unplugged before adjusting or checking function on the tool.

Shaft lock

⚠ CAUTION:

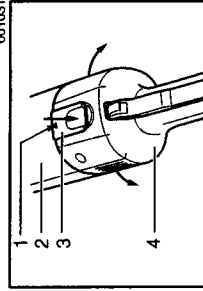
- Never actuate the shaft lock when the spindle is moving. The tool may be damaged.
- Press the shaft lock to prevent spindle rotation when installing or removing accessories.

001027



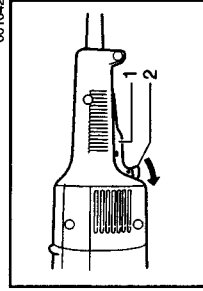
1. Shaft lock

001031



1. Δ mark
2. Motor housing
3. Lock button
4. Handle

001042



1. Switch trigger
2. Lock lever

Switch handle mounting positions

The switch handle can be rotated to either 90° left or right to fit your work needs. First, unplug the tool. Press the lock button and rotate the switch handle until the Δ mark on the lock button is aligned with that on the motor housing. The switch handle will be locked in that position.

Switch action

⚠ CAUTION:

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

For tool with the lock-on switch

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

For tools with the lock-off switch

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

SAVE THESE INSTRUCTIONS

ASSEMBLY

For tool with the lock on and lock-off switch

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

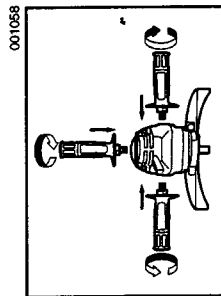
⚠ CAUTION:

- Always be sure that the tool is switched off and unplugged before carrying out any work on the tool.

Installing side grip (handle)

⚠ CAUTION:

- Always be sure that the side grip is installed securely before operation. Screw the side grip securely on the position of the tool as shown in the figure.

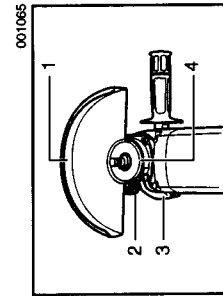


Installing or removing wheel guard

⚠ CAUTION:

- The wheel guard must be fitted on the tool so that the closed side of the guard always points toward the operator. Loosen the lever on the wheel guard. Mount the wheel guard with the protrusion on the wheel guard band aligned with the notch on the bearing box. Then rotate the wheel guard around 180 degrees clockwise. Tighten the lever to fasten the wheel guard. If the lever is too tight or too loose to fasten the wheel guard, loosen or tighten the screw to adjust the tightening of the wheel guard band.

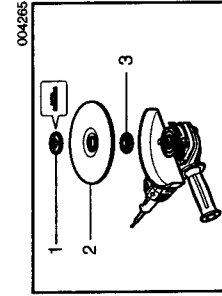
To remove wheel guard, follow the installation procedure in reverse.



- Wheel guard
- Screw
- Lever
- Notch

Installing or removing depressed center grinding wheel/Multi-disc (accessory)

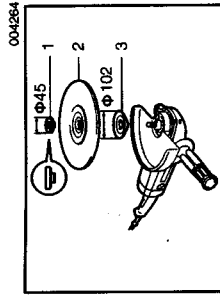
Mount the inner flange onto the spindle. Fit the wheel/disc on the inner flange and screw the lock nut onto the spindle.



- Lock nut
- Depressed center wheel
- Inner flange

For Australia and New Zealand

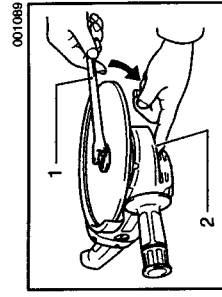
Mount the inner flange onto the spindle. Fit the wheel/disc on the inner flange and screw the lock nut with its protrusion facing downward (facing toward the wheel).



- Lock nut
- Depressed center wheel
- Inner flange

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.



- Lock nut wrench
- Shaft lock

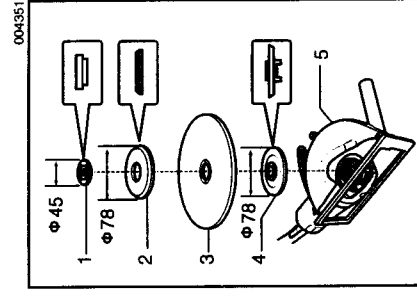
Installing or removing cut-off wheel

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.

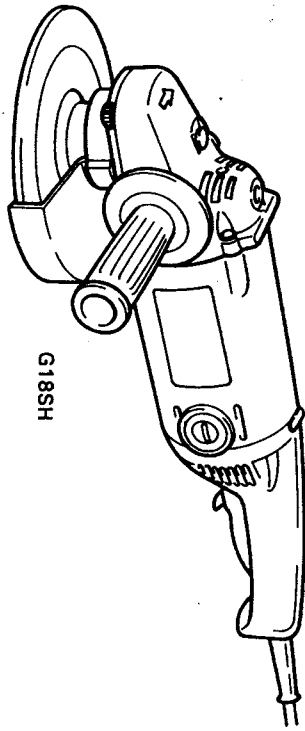


- Lock nut
- Outer flange 78
- Cut-off wheel
- Inner flange 78
- Dust collecting wheel guard

HITACHI

DISC GRINDER WINKELSCHLEIFER MEULEUSE SMERIGLIATRICE ANGOLARE HAAKSE SLIJPMACHINE AMOLADORA ANGULAR

G 18SH • G 18U • G 18SE2 • G 18UA
G 18SG • G 18UB • G 23SF • G 23U
G 23SC2 • G 23UA • G 23SE • G 23UB

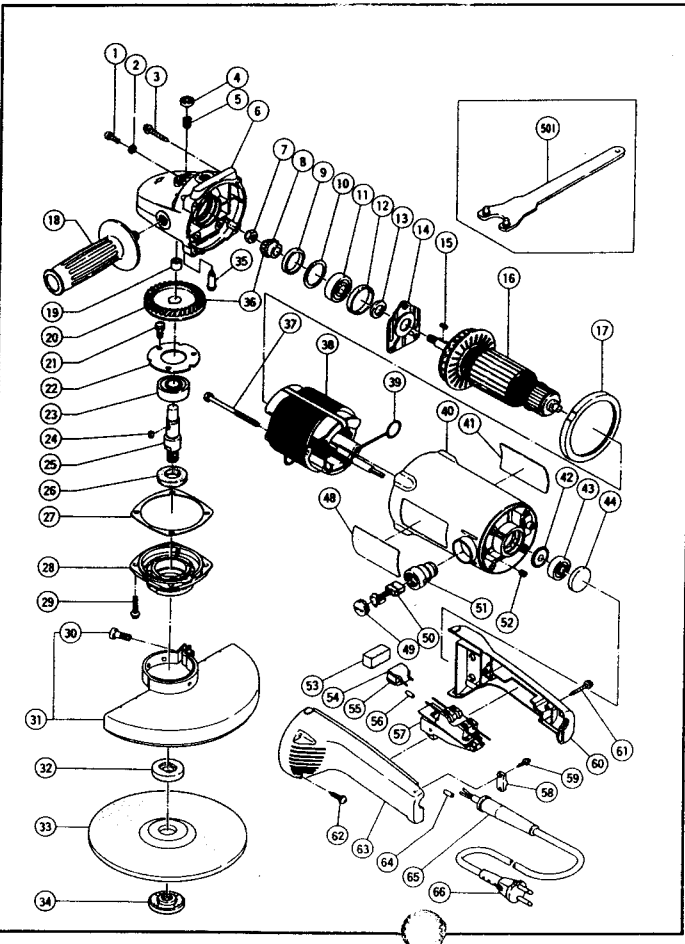


Read through carefully and understand these instructions before use.
Diese Anleitung vor Benutzung des Werkzeugs sorgfältig durchlesen und verstehen.
Lire soigneusement et bien assimiler ces instructions avant usage.
Prima dell'uso leggere attentamente e comprendere queste istruzioni.
Deze gebruiksaanwijzing s.v.p. voor gebruik zorgvuldig doorlezen.
Leer cuidadosamente y comprender estas instrucciones antes del uso.

Handling instructions
Bedienungsanleitung
Mode d'emploi
Istruzioni per l'uso
Gebruiksaanwijzing
Instrucciones de manejo

The exploded assembly drawing should be used only for authorized service facility.

G23SC2

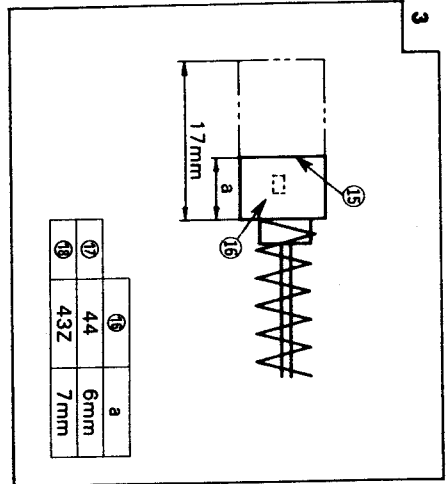
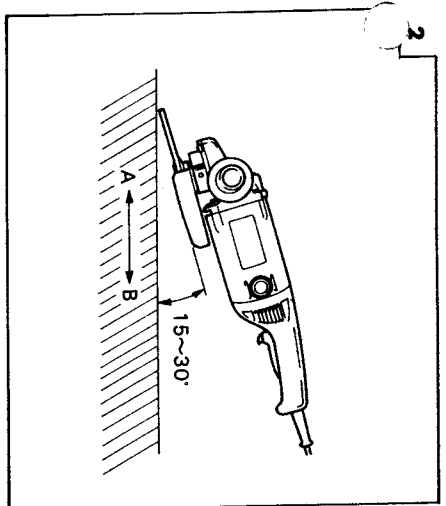
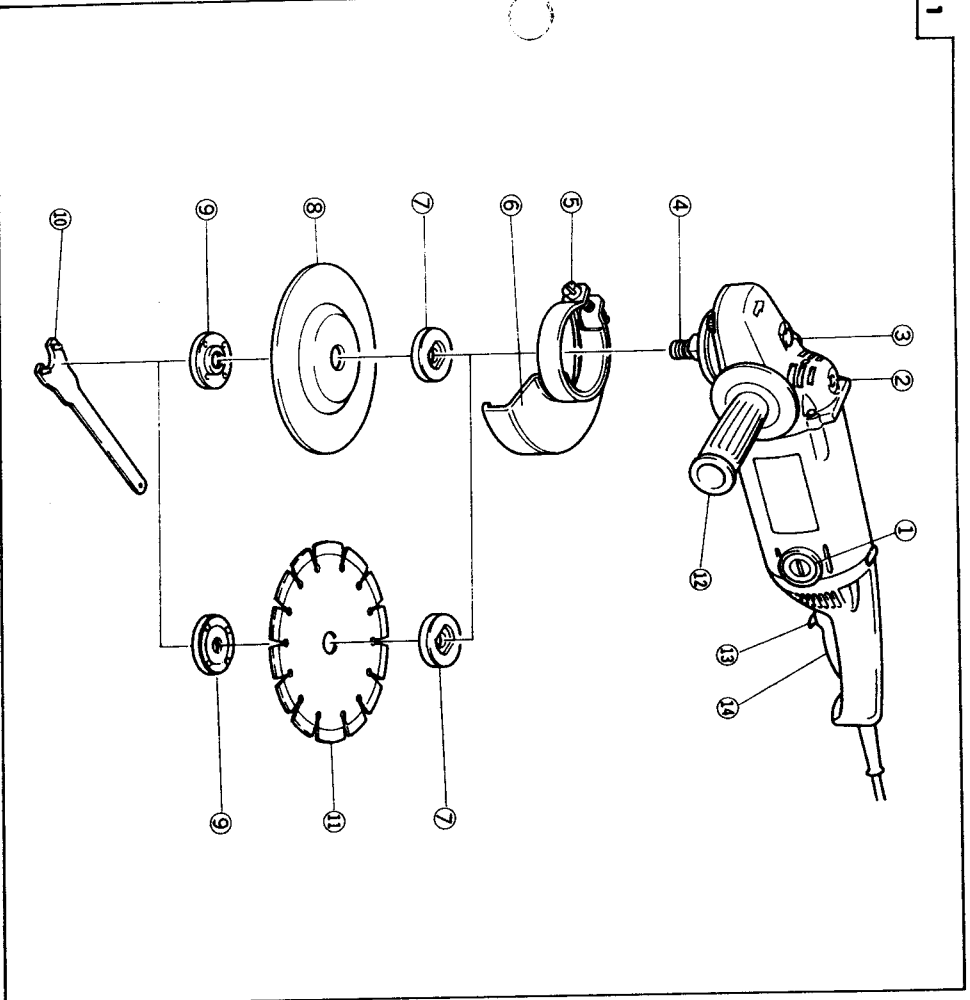


G23SC2

Item No.	Part Name	
1	Machine Screw	M5×14
2	Spring Washer	M5
3	Tapping Screw (W/Flange)	D5×35
4	Push Button	
5	Spring	
6	Gear Cover Ass'y	
7	U-Nut	M8
8	Pinion	
9	Seal Ring (A)	
10	Washer (A)	
11	Ball Bearing (6301DDUCMPS2S)	
12	Rubber Ring (B)	
13	Felt Packing (A)	
14	Bearing Cover	
15	Feather Key	3×3×10
16	Armature	
17	Fan Guide	
18	Side Handle For M14	
19	Needle Bearing (HK1212)	
20	Gear	
21	Seal Lock Screw (W/Sp. Washer)	M5×10
22	Bearing Cover (B)	
23	Ball Bearing (6302DDUCMPS2S)	
24	Feather Key	4×4×8
25	Spindle	
26	Felt Packing (B)	
27	Seal Plate	
28	Packing Gland	
29	Hex. Socket Hd. Bolt (W/Flange)	M5×16
30	Bolt	M8×22
31	Wheel Guard Ass'y	
32	Wheel Washer (A)	
33	D. C. Wheels 230MM A24R	
34	Wheel Nut	
35	Lock Pin	
36	Gear Ass'y	
37	Hex. Hd. Tapping Screw	D5×75
38	Stator Ass'y	
39	Brush Terminal	
40	Housing Ass'y	
41	Name Plate	
42	Dust Seal (A)	
43	Ball Bearing (6200VVCMP2S)	
44	Rubber Ring (D)	
48	HITACHI Label	
49	Brush Cap	
50	Carbon Brush	
51	Brush Holder	
52	Hex. Socket Set Screw	M5×8
53	Dust Packing	
54	Support (B)	
55	Noise Suppressor	
56	Tube (D)	
57	Switch	
58	Cord Clip	
59	Tapping Screw (W/Flange)	D4×16
60	Handle (B)	
61	Tapping Screw (W/Flange)	D4×25
62	Tapping Screw (W/Flange)	D5×25
63	Handle (A)	
64	Tube (D)	
65	Cord Armor	
66	Cord	
501	Wrench	

Item No.	Part Name
37	Hex. Hd. Tapping Screw D5×75
38	Stator Ass'y
39	Brush Terminal
40	Housing Ass'y
41	Name Plate
42	Dust Seal (A)
43	Ball Bearing (6200VVCMP2S)
44	Rubber Ring (D)
48	HITACHI Label
49	Brush Cap
50	Carbon Brush
51	Brush Holder
52	Hex. Socket Set Screw M5×8
53	Dust Packing
54	Support (B)
55	Noise Suppressor
56	Tube (D)
57	Switch
58	Cord Clip
59	Tapping Screw (W/Flange) D4×16
60	Handle (B)
61	Tapping Screw (W/Flange) D4×25
62	Tapping Screw (W/Flange) D5×25
63	Handle (A)
64	Tube (D)
65	Cord Armor
66	Cord
501	Wrench

Parts are subject to possible modification without notice due to improvement.
The drawing and the list are parts structural drawing and parts list of model G23SC2.
For other models refer to the drawing and the list.



English	Deutsch	Francais
1 Brush cap	Bürstendeckel	Capot de balai
2 Socket for side handle	Socket für Seitengriff	Douille pour poignée latérale
3 Push button (Spindle lock)	Druckknopf (Sperrplatte)	Bouton-poussoir (blocage d'arbre)
4 Spindle	Spindel	Arbre
5 Screw	Schraube	Vis
6 Wheel guard	Schutzhaube	Couvre-meule
7 Wheel washer	Unterlegscheibe	Rondelle de la meule
8 Grinding wheel	Schleifscheibe	Meule
9 Wheel nut	Mutter für die Schleifscheibe	Ecrou de la meule
10 Wrench	Schlüssel	Clef
11 Diamond wheel	Diamantscheibe	Disque diamant
12 Side handle	Handgriff	Poignée latérale
13 Lock button	Sperrknopf	Touch de verrouillage
14 Switch	Schalter	Interrupteur
15 Wear limit	Verschleißgrenze	Limite d'usure
16 No. of carbon brush	N. der Kohlebürste	No. du balai en carbone
17 Usual carbon brush	Gewöhnliche Kohlebürste	Balai en carbone ordinaire
18 Auto-stop carbon brush	Auto-Stop Kohlebürste	Balai en carbone à arrêt automatique

Italiano	Nederlands	Español
1 Cappuccio della spazzola	Borstelkap	Tapa de la escobilla
2 Presa per l'impugnatura laterale	Bevestigingspunt voor zijhandgreep	Rosca para el asa lateral
3 Tasto di blocco dell'asse	Druckknopf (as-vergrendeling)	Boton pulsador (Bloqueo del eje)
4 Asse	As	Eje
5 Vite	Schroef	Tornillo
6 Carter della mola	Beschermkap	Cubierta protectora de muela
7 Rondelle "grover"	Onderlegschild	Arandela molar
8 Mola	Schuurschijf	Muela de alisado
9 Dado ad anello	Moer voor de schuurschijf	Contratuercas molar
10 Chiave	Sleutel	Llave para tuercas
11 Disco diamantata	Diamantsaagblad	Adiamantado
12 Impugnatura laterale	Handgreep	Asidero lateral
13 Tasto di blocco	Vergrendelknop	Botón de seguridad
14 Interruttore	Schakelaar	Commutador
15 Limite di usura	Slijtgrens	Limite de uso
16 N. della spazzola di carbone	Nr. van de koolborstel	No. de carbón de contacto
17 Spazzola di carbone comune	Normale koolborstel	Escobilla de carbón usual
18 Spazzola di carbone ad arresto automatico	Auto-stop koolborstel	Escobilla de carbón de parada automática

GENERAL OPERATIONAL PRECAUTIONS

1. Keep work area clean. Cluttered areas and benches invite injuries.
2. Consider work area environment. Don't expose power tools to rain. Don't use power tools in damp or wet locations. Keep work area well lit. Don't use tool in presence of flammable liquids or gases.
Power tools produce sparks during operation. They also spark when switching ON/OFF. Never use power tools in dangerous sites containing lacquer, paint, benzine, thinner, gasoline, gases, adhesive agents, and other materials which are combustible or explosive.
3. Guard against electric shock. Prevent body contact with grounded surfaces. For example; pipes, radiators, ranges, refrigerator enclosures.
4. Keep children away. Do not let visitors contact 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 dry and high or locked-up place-out of reach of children.
6. Don't force tool. It will do the job better and safer at the rate for which it was intended.
7. 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—for example—don't use circular saw for cutting tree limbs or logs.
8. Dress properly. Do not 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.
9. Use eye protection. Also use face or dust mask if cutting operation is dusty.
10. Don't abuse cord. Never carry tool by cord or yank it to disconnect from receptacle. Keep cord from heat, oil and sharp edges.
11. 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.
12. Don't overreach. Keep proper footing and balance at all times.
13. 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.
14. Disconnect tools. When not in use, before servicing, and when changing accessories, such as blades, bits, cutters.
15. Remove adjusting keys and wrenches. Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
16. Avoid unintentional starting. Don't carry plugged-in tool with finger on switch. Be sure switch is off when plugging in.
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. Do not 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. Do not use tool if switch does not turn it on and off.
20. Use the power tools only for applications specified in the Handling Instructions.
21. To avoid personal injury, use only the accessories or attachment recommended in these handling instructions or in the HITACHI catalog.
22. Let only the authorized service facility do the repairing.
The manufacturer will not be responsible for any damages or injuries caused by repair by unauthorized persons or by mishandling of the tool.
23. To ensure the designed operational integrity of power tools, do not remove installed covers or screws.
24. Do not touch movable parts or accessories unless the power source has been disconnected.
25. Use your tool at lower input than specified on the nameplate; otherwise, the finish may be spoiled and working efficiency reduced by motor overload.
26. Do not wipe plastic parts with solvent. Solvents such as gasoline, thinner, benzine, carbon tetrachloride, alcohol, ammonia and oil containing chloric annex may damage and crack plastic parts. Do not wipe them with such solvent. Wipe plastic parts with a soft cloth lightly dampened with soapy water.
27. Use only original HITACHI replacement parts.
28. Disassemble this tool only for replacement of carbon brushes.
29. Use the exploded assembly drawing on this handling instructions only for authorized servicing.

PRECAUTIONS ON USING DISC GRINDER

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

PECIFICATIONS

Model	G18SH	G18U	G18SE2	G18UA	G18SG	G18UB	G23SF	G23U	G23SC2	G23UA	G23SE	G23UB
voltage (by areas)*1	(110V, 115V, 120V, 127V, 220V, 230V, 240V) ~											
Input**	2000W	2200W	2400W	2000W	2200W	2400W	2000W	2200W	2400W	2000W	2200W	2400W
no-load speed	8500/min											
Wheel	180mm											
Outer dia.	22mm											
Inner diam.	230mm											
Peripheral speed	4800m/min											
Weight**	4.3kg	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Starting current limiter**	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes

1 Be sure to check the nameplate on product as it is subject to change by areas.
 2 Weight: Only main body
 3 The starting current limiter produces the starting current to such an extent that a fuse (16A, slow-blow) is not tripped.

STANDARD ACCESSORIES

- 1) Wrench
 - 2) Side Handle
- Grinding wheels are not provided as standard accessories.
 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 a cutting 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. **Fitting and adjusting the wheel guard**
 The wheel guard is a protective device to prevent injury should the grinding wheel shatter during operation. Ensure that the 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 tightened after adjusting the wheel guard.

5. Ensure that the grinding wheel to be utilized is the correct type and free of cracks or surface defects. Also ensure that the grinding wheel is properly mounted and the wheel nut is securely tightened. Refer to the section on "Grinding Wheel Assembly".
6. **Conducting a trial run**
 Before commencing grinding operation, the machine should be given a trial run in a safe area to ensure that it is properly assembled and that the grinding wheel is free from obvious defects. Recommended trial run durations are as follows:
 After replicating grinding wheel 3 minutes or more
 Prior to starting routine work 1 minute or more
7. **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)
8. **Fixing the side handle.**
 Screw the side handle into the gear cover.

PRACTICAL GRINDER APPLICATION

1. **Pressure**
 To prolong the life of the machine and ensure first class finish, it is important that the machine should not be overloaded by applying too much pressure. In most applications, the weight of the machine alone is sufficient for effective grinding. Too much pressure will result in reduced rotational speed, inferior surface finish, and overloading which could reduce the life of the machine.
2. **Grinding angle**
 Do not apply the entire surface of the grinding wheel to the material to be ground. As shown in Fig. 2, the machine should be held at an angle of 15°-30° so that the external edge of the grinding wheel contacts the material at an optimum angle.
3. To prevent a new grinding wheel from digging into the workpiece, initial grinding should be performed by drawing the grinder across the workpiece toward the operator (Fig. 2 direction B). Once the leading edge of the grinding wheel is properly abraded, grinding may be conducted in either direction.

4. Switch operation

Switch ON: Push the locking button forwards and then press the switch lever.
 * For continuous use, press the switch lever. The switch lever is locked by pushing the locking button forwards once again.
 (* Subject to change depending on area.)

5. Precautions immediately after finishing operation

After switching off the machine, do not put it down until the grinding 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 machine.

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

GRINDING WHEEL ASSEMBLY

1. **Assembling (Fig. 1)**
 - (1) Turn the machine upside down so that the spindle is facing upward.
 - (2) Mount the wheel washer onto the spindle.
 - (3) Fit the protuberance of the grinding wheel or diamond wheel onto the wheel washer.
 - (4) Screw 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 accessary wrench, as shown in Fig. 1.
2. **Disassembly**
 Follow the above procedures in reverse.

MAINTENANCE AND INSPECTION

1. **Inspecting the grinding wheel**
 Ensure that the grinding 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 loose, 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.
4. **Replacing a carbon brush:**
 Disassemble the brush cap with a minus-head screwdriver. The carbon brush 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 HITACHI's continuing program of research and development, the specifications herein are subject to change without prior notice.

This appliance is produced to conform to the requirements of B.S. 800: 1977.
 This requirement is applicable to appliances for THE UNITED KINGDOM.

IMPORTANT

Correct connection of the plug
 The wires of the main lead are coloured in accordance with the following code:
 Blue: -Neutral
 Brown: -Live

As the colours of the wires in the main lead of this tool may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:
 The wire coloured blue must be connected to the terminal marked with the letter N or coloured black. The wire coloured brown must be connected to the terminal marked with the letter L or coloured red. Neither core must be connected to the earth terminal.
NOTE
 This requirement is provided according to BRITISH STANDARD 2769: 1984. Therefore, the letter code and colour code may not be applicable to other markets except The United Kingdom.

The noise emitted by this power tool is measured in accordance with IEC 59 (CO) 11, IEC 704, DIN 45 635 Part 21, NFS 31-031 (84/537/EEC for concrete breakers). The sound pressure level at the workplace can exceed 85 dB (A) ; in this case noise protection for the operator is required.