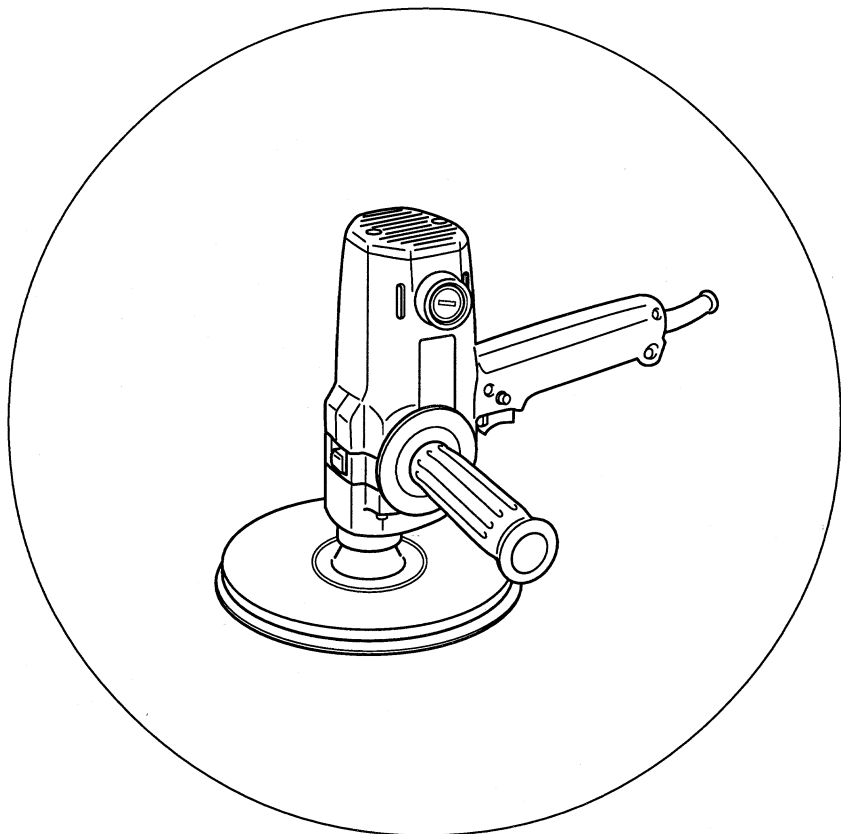


# HITACHI

## 日立牌圆盘磨光机 DISC SANDER

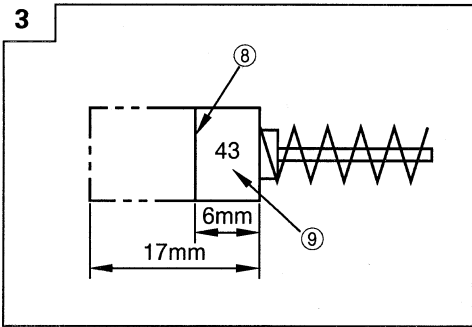
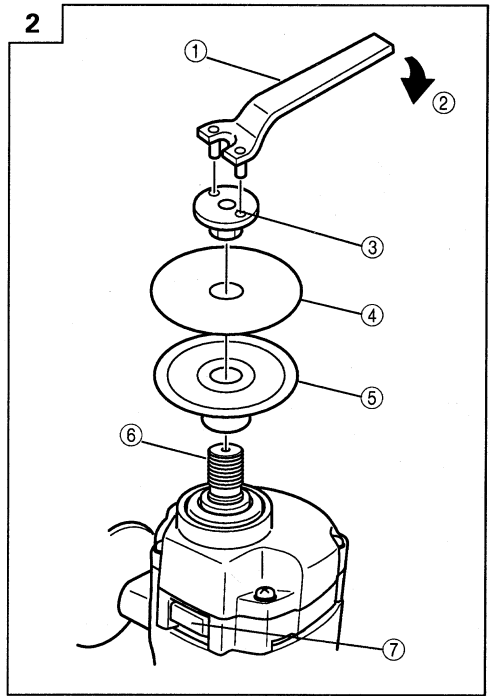
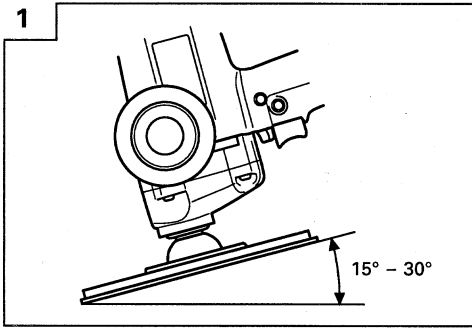
### S 18SA

使用说明书  
Handling instructions



使用前务请详加阅读。

Read through carefully and understand these instructions before use.



①	扳手	Wrench
②	紧	Tighten
③	垫片螺帽	Washer nut
④	砂盘	Sanding disc
⑤	橡胶垫圈	Rubber pad
⑥	主轴	Spindle
⑦	锁定杆	Lock lever
⑧	磨损极限	Wear limit
⑨	碳刷号	No. of carbon brush

# 作业上的一般注意事项

**警告!** 当使用电动工具时, 为了减少造成火灾、电击和人身伤害, 必须时刻遵守基本注意事项, 以及下述操作注意事项。

在操作本机之前, 请通读本说明书, 并予以妥善保管。

## 安全操作注意事项:

1. 工作场所应打扫干净, 清理妥当, 杂乱无章将导致事故。
2. 确保妥适的作业环境。电动工具不可任其风吹雨打。不得在潮湿的地方作业。工作场所需保持充分的亮度。请勿在有可能造成火灾或爆炸的地方使用电动工具。
3. 谨防触电事故。应避免身体同大地或接地表面不可让访客触摸电动工具或延伸线缆接触(例如: 管道、散热器、炉灶、冰箱等)
4. 不可让孩童靠近工作场所。与作业无关的访客也必须保持安全距离。
5. 不使用的电动工具应存放于干燥而孩童伸手不及的高处, 并加锁保管。
6. 不得使劲用力推压。电动工具需按设计条件才能有效而安全地工作, 绝不可勉强。
7. 妥选使用工具。不可用小型工具或附件去干重活。不可用于规定外的作业。举例说, 用圆锯进行伐木打枝或原木锯切作业。
8. 工作时衣服穿戴要合适。不要让松散的衣角和宝石类卷入转动部份。屋外作业时, 最好手戴橡胶手套, 脚穿防滑胶鞋。同时要戴上能够罩笼长发的工作帽。
9. 绝大多数的电动工具作业时, 均需戴安全眼镜。进行粉尘飞扬的切削作业时, 需戴防尘面罩。
10. 连接除尘设备  
如果提供连击除尘和集尘的设备, 请确认是否已经连接好并且使用正常。
11. 不要拿电线提起电动工具, 也不得拉扯电线从电源插座拆除插头。电线需从热源和油液隔开, 并避免与锐利的边缘接触。
12. 作业以安全第一为原则。工件要用夹具或台钳卡紧。这样做, 比用手按压更为可靠, 也能够让双手专心操作。
13. 作业时脚步要站稳, 身体姿势要保持平衡。

14. 工具应维护妥善, 经常保持锋利、清洁才能充分发挥性能, 落实作业安全的要求。应按规定加注润滑油、更换附件。线缆应定期检查, 如发现损伤应立即委托专业性的服务单位加以修复。延伸电缆如有损伤应予更换。手柄要保持干燥, 并防止沾附油脂类。
15. 不使用时, 维修前以及更换附件(如: 刀具、钻头、锯具等)之前, 都必须拆卸电源插头才行。
16. 开动前务必把调整用键和扳手类拆除下来。这一点与安全有关。应养成习惯, 严格遵守。
17. 谨防误开动。插头一插上电源插座, 插头就不可随便接触电源开关。插接电源之前, 应先确认: 开关是否切断。
18. 屋外延伸线缆的使用。屋外作业时, 必须使用专用的延伸线缆。
19. 保持高度警觉, 充分掌握情况, 以正常的判断力从事作业。疲惫时切不可开动电动工具。
20. 检查损坏部件。在继续使用电动工具之前, 应详细检查各部零件以及防护装置有无损坏, 以便判断具能否正常工作, 能否发挥正常效能。检查转动部份的对准、空转、各零件有无异常, 安装是否妥善以及其它足以给工作带来不良影响的情况。  
如防护以及其它零件损伤了。除非本说明书中已有记载否则应立即委托服务中心进行妥善修理或更换。开关一发现缺陷, 应立即委托服务中心加以更换。如开关不能正常地接通或切断, 绝不可使用该电动工具。
21. 警告  
使用非本说明书中的推荐的附件可能有发生人身损害的危险。
22. 本工具必须委托有资格的维修人员进行维修。  
本电动工具满足相关的安全要求。维修必须由专业人员使用纯正配件来进行。否则有可能会给用户造成人身损害。

## 使用圆盘磨光机时的注意事项

1. 请远离正在旋转的砂盘。
2. 严密注意打火花。
3. 使用时握牢砂纸机。
4. 请勿将正在旋转的圆盘磨光机放在无人看管的地板上。

5. 操作时当心周围的人。
6. 更换砂盘时，请遵循有关使用说明书上所规定的顺序。
7. 切勿将磨轮装在本工具上而将本工具当作磨光机来使用。

## 规格

电压（按地区）*	(110V, 115V, 120V, 127V, 220V, 230V, 240V) ~
输入功率*	650W
无负荷速度	4000 转/分
重量（不含线缆）	2.7 kg

\*当须改变地区时应检查产品上的铭牌。

## 标准附件

- (1) 180 mm 砂盘（粒度：P50）..... 1
- (2) 橡胶垫圈..... 1
- (3) 扳手..... 1
- (4) 侧柄..... 1

标准附件可能不预先通告而径予更改。

## 选购附件（分开销售）

- 180 mm 砂盘  
有十一种砂盘可供选购，其粒度分别为 P16、P20、P24、P30、P36、P40、P50、P60、P80、P100 及 P120。订购砂盘时，请指定您所需要的粒度。

选购附件可能不预先通告而径予更改。

## 用途

- 金属表面的磨光。
- 油漆前的金属表面的初步磨光，金属表面上的铁锈或旧漆的清除。
- 木工件的最后加工，接合面或装配面上木料的突出部分。
- 油漆前的木材表面的初步磨光。

## 作业之前

1. 电源  
确认所使用的电源与工具铭牌上标示的规格是否相符。
2. 电源开关  
确认电源开关是否切断。若电源开关接通，则插头插入电源插座时电动工具将出其不意地立刻转动，从而招致严重事故。
3. 延伸线缆  
若作业场所移到离开电源的地点，应使用容量足够、铠装合适的延伸线缆，并且要尽可能地短些。

**注意：**损坏和导线一定要更换或修理。

4. 安装砂盘  
安装或拆卸砂盘时，请参照“砂盘的安装/拆卸”一节的内容。有多种砂盘可供选购，请选择最适合于您的研磨工作的砂盘。
5. 固定侧柄  
把侧柄旋进罩中。
6. 检查锁定杆  
在打开电源开关之前按两三下锁定杆，检查它是否已被释放（参照图 2）。

## 圆盘磨光机的实际应用

1. 请勿用力将砂盘压在打磨表面，只要依靠圆盘磨光机本身的重量即可达到打磨目的。因此，操作时，只要将砂盘轻触打磨表面即可。用力压砂盘的话，砂盘的转速会降低，同时会使打磨表面粗糙不平。另外，马达也会因过载而发生故障。
2. 不必将砂盘的整个表面压在了要打磨的金属表面上，请将砂盘稍微倾斜一点，使其与打磨表面约成  $15 \sim 30^\circ$ （图 1）。
3. **圆盘磨光机的开关**  
本工具中，采用了快断式扳机来开关圆盘磨光机。拉起扳机时，开关便被打开，而松开扳机时，开关便被关上。若想使开关长时间开着以便于连续操作，可使用停止销。使用停止销的话，即使松开扳机，开关也不会被关掉。  
(先拉起扳机开关，然后按下停止销。) 若想关掉开关，请再一次拉起扳机。这样停止销便会被松开。
4. **使用须知**  
使用本工具之后，在砂盘没有完全停止之前，请勿将其立即放在有许多细层、脏物和灰尘的地方。

**注意：**圆盘磨光机不用时，应将电源关掉。

## 砂盘的安装／拆卸（图 2）

**注意：**确认开关已断开并且从电源插座中拔去电源插头以避免严重事故。

- (1) 将垫片、橡胶垫圈及砂盘依次装在主轴上。
  - (2) 用一只手按锁定杆，同时用另一只手慢慢转动橡胶垫圈锁住主轴。  
用附带的扳手旋紧轮状垫片。
- 请按与上述相反的顺序来拆卸砂盘。

**注意：**确认锁定杆被解除锁定；可在打开圆盘磨光机之前通过撤两三次锁定杆进行检查。

## 维护和检查

1. **检查安装螺钉**  
要经常检查安装螺钉是否紧固妥善。若发现螺钉松了，应立即重新扭紧，否则会导致严重的事故。
  2. **电动机的维护**  
电动机绕线是电动工具的“心脏”。应仔细检查有无损伤，是否被油液或水沾湿。
  3. **检查碳刷（图 3）**  
马达使用碳刷，它是消耗部品，因为使用过久的碳刷将会导致马达故障，用具有相同碳刷号的新碳刷去更换旧的，碳刷编号用数字表示碳刷何时用旧或接近于磨损极限，此外，要经常保持碳刷清洁以及保证它在刷握里能自由滑动。
- **更换碳刷**  
用无头螺丝刀卸下碳刷盖，然后可以很容易地取下碳刷。

**注：**为求改进，本手册所载规格可能不预先通告而径予更改。

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## GENERAL OPERATIONAL PRECAUTIONS

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**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 safer 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.

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## PRECAUTIONS ON USING DISC SANDER

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1. Keep away from a revolving sanding disc.
2. Pay strict attention to sparks.
3. Hold the disc sander firmly.
4. Do not leave the revolving disc sander unattended on the floor.
5. Be careful those around one while operating.
6. Follow the procedures of these handling instructions on sanding disc replacement.
7. Never mount a depressed center wheel on this tool and attempt to use it as a disc grinder.

## SPECIFICATIONS

Voltage (by areas)*	(110V, 115V, 120V, 127V, 220V, 230V, 240V)∩
Power Input*	650W
No-Load Speed	4 000/min.
Weight (without cord)	2.7 kg

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

## STANDARD ACCESSORIES

- (1) 180 mm Sanding Disc (Grain size: P50) ..... 1
  - (2) Rubber Pad ..... 1
  - (3) Wrench ..... 1
  - (4) Side Handle ..... 1
- Standard accessories are subject to change without notice.

## OPTIONAL ACCESSORIES (sold separately)

- 180 mm Sanding disc  
There are eleven different kinds of sanding disc, having grain sizes of P16, P20, P24, P30, P36, P40, P50, P60, P80, P100, P120. When placing your order, please specify the grain size of the disc desired.
- Optional accessories are subject to change without notice.

## APPLICATIONS

- Sanding metal surfaces.
- Preliminary sanding of metal surfaces before painting, rust removal, removing old paint before repainting.
- Finishing woodwork, correcting projections of timbers from joints or assemblies.
- Preliminary sanding of wood surfaces before applying paint.

## 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 receptacle while the power switch is in the ON position, the power tool will start operating immediately, inviting 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.  
**CAUTION:**  
Damaged cord must be replaced or repaired.
4. **Attaching sanding disc**  
For attachment/removal of the sanding disc, refer to "ATTACHMENT/REMOVAL OF SANDING DISC". Many types of sanding discs are available; select one appropriate to the work.
5. **Fixing the side handle**  
Screw the side handle into the housing.

## 6. Confirm the lock lever

Confirm that the lock lever is disengaged by pushing lock lever two or three times before switching the power tool on (See Fig. 2)

## PRACTICAL SANDER APPLICATIONS

1. Do not heavily push the sanding disc to the surface to be ground. Grinding operation can be achieved with the weight of the machine alone, so maintain the sanding disc to an extent that it lightly touches the surface to be ground. When the sanding disc is pushed heavily, its revolving speed drops, creating an unevenly finished surface and causing motor seizure from overload.
2. Rather than applying the entire disc surface to the metal surface to be ground, use the sander by inclining it approximately 15° ~ 30° to grind with the disc peripheral portion. (Fig. 1)
3. **Switching on the sander**  
The switch is of the quick-break trigger system. When the trigger is pulled, the switch turns on; and when it is released, the switch turns off.  
When it is desired to keep the power on for a prolonged period in continuous use, the stopper can be used to keep the switch on even after the trigger has been released. (First pull the trigger, and then press the stopper.) To turn the switch off, first pull the trigger again to disengage the stopper.
4. **Precaution after use**  
Do not lay the sander down immediately after using on a place where there are many shavings, much dirt and dust until it has completely stopped revolving.

### CAUTION

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

## ATTACHMENT/REMOVAL OF SANDING DISC (Fig. 2)

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

- (1) Attach washer, rubber pad and sanding disc on the spindle, in that order.
  - (2) While pushing the lock lever with one hand, lock the spindle by turning the rubber pad slowly with the other hand.  
Tighten the wheel washer by using the supplied wrench.
- Remove the sanding disc in the reverse order to attachment.

**CAUTION:** Confirm that the lock lever is disengaged by pushing lock lever two or three times before switching the disc sander on.

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## MAINTENANCE AND INSPECTION

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### 1. 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.

### 2. 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.

### 3. Inspecting the carbon brushes (Fig. 3)

The motor employs carbon brushes which are consumable parts. Since an excessively worn carbon brush could result in motor trouble, replace the carbon brushes with new ones which have the same carbon brush No. shown in the figure when they become worn to or near the "wear limit". In addition, always keep carbon brushes clean and ensure that they slide freely within the brush holders.

#### ○ Replacing carbon brushes

Disassemble the brush caps with a slotted-head screwdriver. The carbon brushes can then be easily removed.

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#### Note

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

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