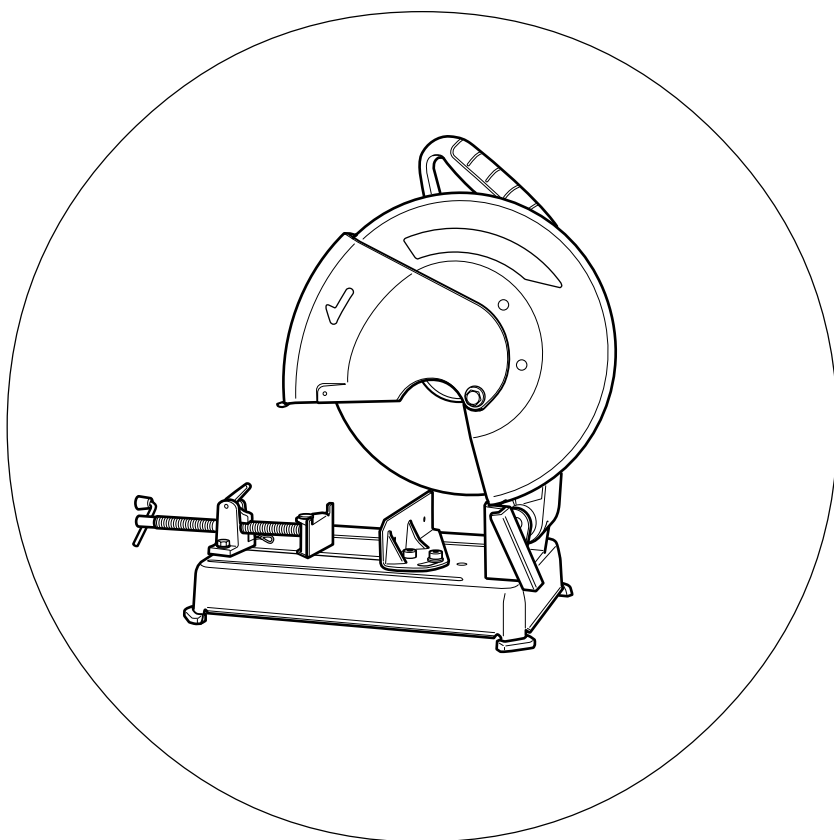


HITACHI

日立牌高速切割机 Cut-Off Machine

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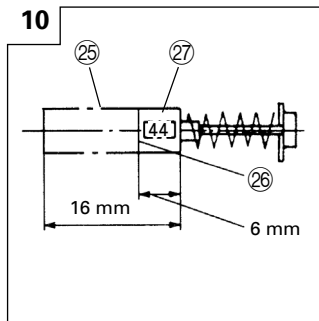
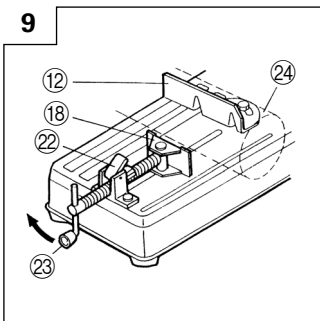
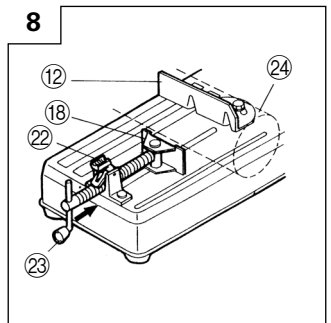
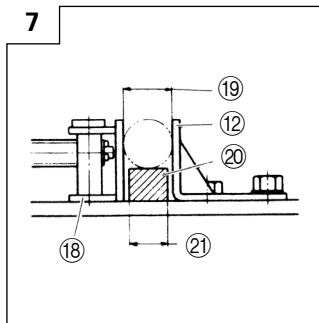
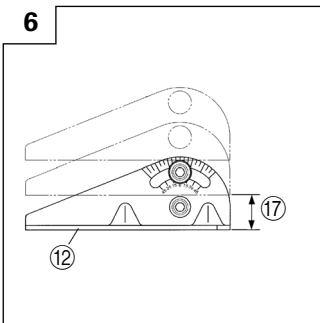
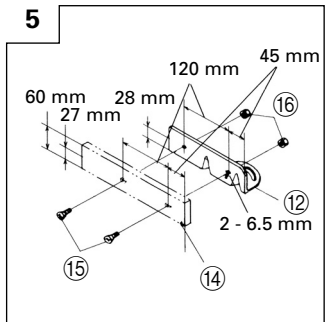
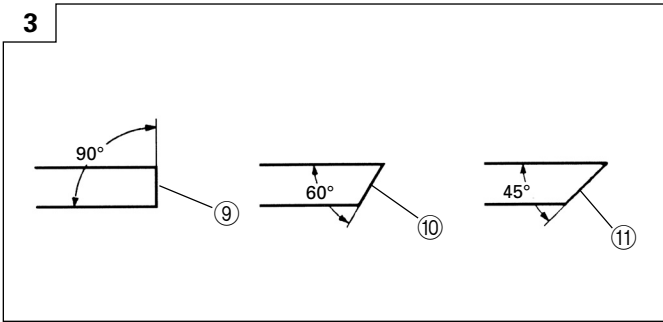
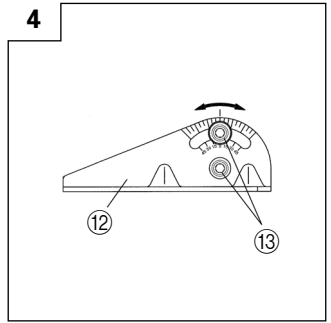
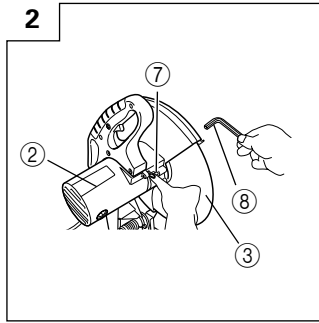
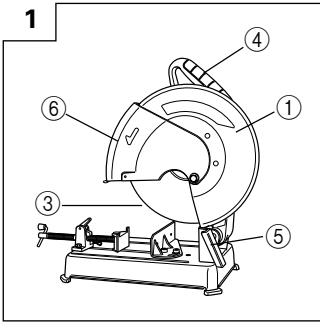
使用说明书
Handling instructions



使用前务请详加阅读

Read through carefully and understand these instructions before use.

Hitachi Koki



①	轮罩	Wheelcover
②	马达	Motor
③	切割轮	Cut-off wheel
④	把手	Handle
⑤	火花档槽	Spark chute
⑥	安全罩	Safety cover
⑦	止动销	Stopper
⑧	六角条形扳手	Hex. bar wrench
⑨	设于 0 度时	When setting at an angle of 0°
⑩	设于 30 度时	When setting at an angle of 30°
⑪	设于 45 度时	When setting at an angle of 45°
⑫	夹具 (B)	Vise (B)
⑬	10 mm 螺栓	10 mm bolts
⑭	钢板 (厚度为 6 mm 以上)	Steel board (More than thickness 6 mm)
⑮	大于 6 mm × 15 的平头螺丝	Flat hd. screw of more than 6 mm × 15
⑯	6 mm 螺母	6 mm nuts
⑰	夹具可设定 205 mm 和 240 mm 两级时, 夹具夹放于 170 mm。	The vise-jaws open to 170 mm while the vise can be set in two steps 205 mm and 240 mm.
⑱	夹具 (A)	Vise (A)
⑲	被切割工作的尺寸	Dimension of workpiece to be cut
⑳	金属块	Metallic block
㉑	金属块的尺寸 (应比工件稍小)	Dimension of Metallic block
㉒	接合器	Clutch
㉓	螺丝柄	Screw handle
㉔	工件材料	Workpiece material
㉕	碳刷	Carbon Brush
㉖	磨损极限	Wear limit
㉗	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. 不得使动用力推压。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. 妥适使用工具。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。应按规定加注润滑脂、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，指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，应详细检查各零部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人身损害。

使用高速切割机前的注意事项

1. 使用之前，请确认切割轮无破裂或裂痕。在使用前请始终进行试运转以确认高速切割机无异常。
2. 请使用正常切割轮的正常工作面。
3. 请注意防护火花。
4. 请正确更换切割轮。
5. 请始终注意切割轮夹紧部件未出现破损。有缺陷的部件将导致切割轮破损。
6. 请确保工件不带钉子等异物。

规格

电压（按地区）*		(110V, 115V, 120V) ~	(220V, 230V, 240V) ~
输入功率		1640W*	2000W*
最大切割尺寸 高度 × 宽度	90°	115 mm × 130 mm	70 mm × 235 mm
	45°	106 mm × 106 mm	
空载转速		3700 /min	
最大圆周速度		4800 m/min	
重量		16.5 kg	

* 由于电压因使用地区而异，因此必须检查产品铭牌上所标示的电压。

标准附件

- (1) 切割轮 1
- (2) 六角条形扳手 1

用途

切割各种金属材料，如管道、圆棍及型钢。

作业之前

1. **电源**
确认所使用的电源与产品名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，从而导致严重事故。
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。
4. 必须将切割机安装在平坦的地方，并使其保持稳定状态。为防止在操作时发生触电事故，出厂前已对切割机进行了严格检查。
5. 运输时，因本工具的可动部分被用锁链张力固定住，因此，请轻按开关柄，从锁链钩上卸下锁链。
6. 必须确认所有切割轮都处于良好状态，必须无刮伤、无裂缝。

7. 虽然夹紧螺母在出厂前已被拧紧，但为了安全请重新将其拧紧。
8. 保护罩（轮罩）能预防事故发生，例如能防止破裂的切割轮飞散。虽然固定螺丝在出厂前已被拧紧，但为了安全请重新将其拧紧。
9. 更换切割轮时，必须确认所更换的切割轮的设计圆周速度是否在 4800 米/分以上。
10. 必须确认用于拧紧或拆卸切割轮的条形扳手确实没留在切割机上。
11. 必须用夹具将材料固定住。否则，在作业期间材料松弛或切割轮破损的话会引起严重事故。
12. 没注意到切割轮已产生裂痕或裂缝而继续进行切割的话，将会导致严重事故。因此，开始作业前，必须进行试运转，确认切割轮确实无异常。
试运转时间：
更换切割轮后 3 分钟以上。
开始日常作业后 1 分钟以上。
13. 请旋转切割轮，检查其表面上的缺陷。缺陷严重时，会造成切割轮移位。

切割顺序

注意：

在切割轮旋转时装卸工件是十分危险的。

1. 操作开关

手动拉起扳机开关时即可打开操作开关，而松开扳机开关使其返回起始位置时，即可关掉操作开关。若拉起扳机开关后按止动销，即使松开扳机开关之后开关也可继续操作。再次拉起扳机开关可卸下止动销，松开扳机开关便关掉开关。

2. 切割

- (1) 旋转切割轮，轻轻按下把手，使切割轮靠近要切割的材料。
- (2) 切割轮碰到要切割的材料后，再进一步轻轻按下把手，开始切割。
- (3) 完成切割（或切进所设计的槽深）后，提起把手，使其返回原来位置。
- (4) 每次切割结束后，都必须关掉开关。等高速切割机完全停止转动后，才能进行下一项切割作业。

注意：

用力按把手并不能加快切割速度。相反，过分用力按把手会给马达增加不必要的负担并降低切割能力。完成作业后，必须关掉开关并将电源插头从插座上拔出。

切割轮的装卸

1. 拆卸切割轮（图 2）

- (1) 按止动销并用六角条形扳手松开螺栓。

注意

当按止动销不能固定切割轮的安装轴时，请按住止动销并用六角条形扳手转动螺栓。止动销被降下后，切割轮的安装轴即被固定。

- (2) 卸下螺栓、垫圈 (A) 和轮垫圈并拆下切割轮。

2. 安装切割轮

将轮垫圈及螺栓上的灰尘完全擦净，然后按与上述拆卸步骤相反的顺序安装切割轮。

注意

请确认用于安装和拆卸切割轮的止动销已返回到缩回位置。

操作方法

1. 固定切割材料的步骤（图 8 和 9）

如图 8 所示，将工件材料置于夹具 (A) 和夹具 (B) 之间，拉起接合器并按螺丝柄以使夹具 (A) 轻轻接触到工件材料。

然后将接合器转下，转动螺丝柄将工件材料牢牢地固定在正确位置。当切割作业完成时，请转动螺丝柄两三次以松开夹具，并卸下工件材料（如图 9 所示）。

注意

为了避免受伤，在切割轮转动期间切勿卸下或安装工件材料。

2. 角切割（图 3 和 4）

- (1) 本工具可以 45 度或 60 度的斜角进行切割。
- (2) 如图 4 所示，松开夹具 (B) 上的两个 M10 六角形套筒扳手头螺栓，然后将夹具卡爪上的工作表面设于 0、30 或 45 度中的任意一个角度。完成设定之后，拧紧两个 M10 六角形套筒扳手头螺栓。
- (3) 如图 5 所示，当以斜角切割较宽的材料时，通过将钢板固定于夹具 (B)，便可牢牢地固定材料。

3. 移动夹具的固定卡爪（图 6）

本工具出厂时，夹具开口被设定为最大 170 毫米，需要使夹具开口大于 170 毫米，请旋松两个螺栓后，将夹具移到锁线所示的位置。最大张口可被设为两档，即 205 毫米和 240 毫米。当切割材料太宽时，需要重新设定夹具的卡爪后才能有效地发挥夹具的作用。

4. 如何使用金属块（图 7）

如切割轮的外径减小时，可在夹具 (A) 和 (B) 之间插入比工件稍小金属块，这样即使不更换切割轮也能切割材料，从而节省开支。

维护和检查

注意

在检查或维护之前，请务必关掉电源开关并从电源插座上拔出插头。

1. 更换切割轮

长时间使用后当切割轮变钝时，会给马达增加不必要的负担。因此，必须修整切割轮或换上新的切割轮以保证切割效果。

2. 检查炭刷（图 10）

电动机上的碳刷是一种消耗品，其磨损程度一旦超出了“磨损极限”，电动机将发生障碍。因此，磨损了的碳刷应即更换新件。此外，碳刷必需常保干净状态，这样才能在刷握里自由滑动。

3. 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，应立即重新拧紧，否则会导致严重的事故。

4. 润滑

请每月在下列润滑部添加一次机油，以延长切割机的使用寿命。（图 1）

- 轴承旋转部
- 夹具旋转部
- 夹具 (A) 的滑道

5. 清洗

必须经常用布将机身上的切屑和灰尘擦掉。请小心不要弄湿机油或水弄湿马达部分。

注：为求改进，本手册所载规格可能不预先通告而径予更改。

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 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.

PRECAUTIONS ON USING CUT-OFF MACHINE

1. Before using it, ascertain that the cut-off wheel is not cracked or split. Always make a trial run before use to confirm that the Cut-Off Machine does not involve abnormalities.
2. Use the normal cut-off wheel on its normal working surface.
3. Guard against cut-off sparks.
4. Properly replace the cut-off wheel.
5. Always pay attention that the cut-off wheel clamping parts are never impaired. Defective parts will cause damage to the cut-off wheel.
6. Ensure that the workpiece is free of foreign matter such as nails.

SPECIFICATIONS

Voltage (by areas)*		(110V, 115V, 120V) ~	(220V, 230V, 240V) ~
Input		1640W*	2000W*
Max. cutting dimensions Height × width	90°	115 mm × 130 mm	70 mm × 235 mm
	45°	106 mm × 106 mm	
No-Load Speed		3700 /min	
Max. working peripheral speed		4800 m/min	
Weight		16.5 kg	

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

STANDARD ACCESSORIES

- (1) Cut-off wheel 1
 (2) Hex. bar wrench 1

APPLICATION

Cutting of various metallic materials such as pipes, round bars and shaped steel and siding board.

PRIOR TO OPERATION

- Power source**
Ensure that the power source to be utilized conforms to the power requirements specified on the product nameplate.
- 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, which could cause a serious accident.
- 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.
- Install the machine on a level flat place, and keep it in a stable condition. Prior to shipping, the equipment is subjected to a rigid factory inspection to prevent electric shocks during operation.
- Since movable portions are secured by tension of a chain while in transit, remove the chain from the chain hook by slightly depressing the switch handle.
- Ascertain that all cut-off wheels are in perfect condition, and do not display scars and cracks.
- Although they have been fully clamped at the factory prior to delivery, reclamp the clamping nuts securely for safety.
- Possible accidents such as a cracked cut-off wheel is prevented by this protective cover (wheel cover). Although it has been fully clamped at the factory prior to delivery, securely reclamp the mounting screws for safety.
- When replacing the cut-off wheel, ensure that the replacement cutting wheel has a designed circumferential speed in excess of 4800 m/min.

- Ensure that the bar spanner used for tightening or removing the cut-off wheel is not attached to the machine.
- Ensure that the material is securely fastened with the vise. If it is not, a serious accident could be caused if the material comes loose or the cut-off wheel breaks during operation.
- Continued cutting without noticing a cracked or split cut-off wheel may prove to be very hazardous. Before starting operation, make a trial run to confirm that no abnormalities are involved.
Trial run periods:
When replacing the cut-off wheel
..... Over 3 minutes.
When starting routine work
..... Over 1 minute.
- Rotate the cut-off wheel to inspect any facial deflection. A heavy deflection will cause the cut-off wheel to shift.

CUTTING PROCEDURES

CAUTION

It is dangerous to remove or install the workpiece while the cut-off wheel turning.

1. Operating the switch

The switch is switched on by manually pulling the trigger and cut off by releasing the trigger to the original location. The switch can operate continuously, even after releasing the trigger, by pushing the stopper after pulling the trigger. The stopper can be removed by pulling the trigger again and the switch is cut off with the release of the trigger.

2. Cutting

- Rotate the cut-off wheel, gently press down the handle, and bring the cut-off wheel close to the cutting material.
- When the cut-off wheel contacts the cutting material, gently press down the handle further and start cutting.
- When cutting (or designated slotting) is completed, raise the handle and restore it to its original position.
- At the termination of each cutting process, turn OFF the switch to stop rotation and proceed with the subsequent cutting job.

CAUTION

It does not necessarily cut rapidly when putting more force on the handle.

Too much force on the handle will put excessive pressure on the motor and reduce its capacity. Do not fail to switch OFF the switch after operation is completed and pull the plug out.

MOUNTING AND DISMOUNTING THE CUT-OFF WHEEL

1. Dismounting the cut-off wheel (Fig. 2)

- (1) Press the stopper and loosen the bolt with a hex. bar wrench.

CAUTION

When the mounting shaft for cut-off wheel cannot be fixed with pressing the stopper, turn the bolt with a hex. bar wrench while pressing the stopper. The mounting shaft for cut-off wheel is fixed when the stopper has been lowered.

- (2) Remove the bolt, washer (A), and the wheel washer and detach the cut-off wheel.

2. Mounting the cut-off wheel

Thoroughly remove dust from the wheel washers and bolt then mount the wheel by following the dismounting procedures in reverse order.

CAUTION

Confirm that the stopper which was used for installation and removal of the cut-off wheel has returned to the retract position.

HOW TO OPERATE

1. Procedure for fixing the cutting material (Fig. 8 and 9)

Place the workpiece material between vise (A) and vise (B), raise the clutch and push the screw handle to bring vise (A) lightly into contact with the workpiece material, as shown in Fig. 8.

Then, turn the clutch down, and securely fix the workpiece material in position by turning the screw handle. When the cutting job is completed, turn the screw handle 2 or 3 times to loosen the vise, and remove the workpiece material, as shown in Fig. 9.

CAUTION

Never remove or install a workpiece material while the cut-off wheel is rotating, to avoid personal injury.

2. Cutting at angles (Fig. 3 and 4)

- (1) The machine permits cutting at angles of 45° or 60°.
- (2) Loosen the two M10 hexagon socket head bolts on the vise (B), then set the working surface on the vise-jaw at any angles of 0°, 30°, or 45° as shown in Fig. 4. Upon completion of setting, securely tighten the two M10 hexagon socket head bolts.
- (3) When wide material is cut with angle, it will be firmly camped by fixing a steel board like Fig. 5 to the vise (B).

3. Moving the stationary vise-jaw (Fig. 6)

The vise opening is set at the maximum of 170 mm when shipped from the factory. In case an opening of more than 170 mm is required, move the vise to the position shown by the chain line after unscrewing the two bolts. The maximum opening can be set in two steps 205 mm and 240 mm. When the cutting material is excessively wide, the vise can be effectively used by repositioning the stationary side of the vise-jaws.

4. How to use metallic block (Fig. 7)

When the cut-off wheel has a reduced outer diameter, insert between the vise (A) and (B) a metallic block slightly smaller than the dimension of workpiece being cut to use the cut-off wheel economically.

MAINTENANCE AND INSPECTION

CAUTION

Be sure to switch off and pull off the plug from the power outlet before inspection and maintenance.

1. Replacing a cut-off wheel

When the cut-off wheel has already become dull while continually using, the unnecessary load is got from the motor. Consequently, redress or replace a dull cut-off wheel to ensure grinding efficiency.

2. Inspecting the carbon brushes (Fig. 10)

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-stop 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 Number shown in the figure. In addition, always keep carbon brushes clean and ensure that they slide freely within the brush holders.

3. 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.

4. Lubrication

Supply oil in the following oil supply points once a month so as to keep the machine workable for a long time. (See Fig. 1)

Oil supply points

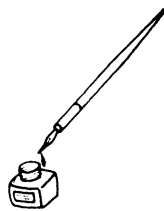
- Rotary part of shaft
- Rotary part of vise
- Slide way of vise (A)

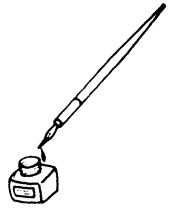
5. Cleaning

Wipe off chip and waste adhered to the machine with a cloth or the like time to time. Be careful not to make the motor portion 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.





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