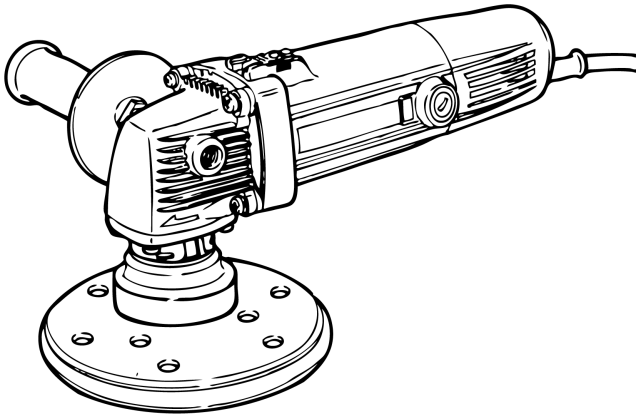


HITACHI

Rotary Orbital Sander Model SAY-150A

Handling instructions



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.



Hitachi Koki

GENERAL SAFETY RULES

WARNING!

Read all instructions

Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

The term "power tool" in all of the warnings listed below refers to your mains operated (corded) power tool or battery operated (cordless) power tool.

SAVE THESE INSTRUCTIONS

1) Work area

- a) **Keep work area clean and well lit.**
Cluttered and dark areas invite accidents.
- b) **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.**
Power tools create sparks which may ignite the dust of fumes.
- c) **Keep children and bystanders away while operating a power tool.**
Distractions can cause you to lose control.

2) Electrical safety

- a) **Power tool plugs must match the outlet. Never modify the plug in any way.**
Do not use any adapter plugs with earthed (grounded) power tools.
Unmodified plugs and matching outlets will reduce risk of electric shock.
- b) **Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators.**
There is an increased risk of electric shock if your body is earthed or grounded.
- c) **Do not expose power tools to rain or wet conditions.**
Water entering a power tool will increase the risk of electric shock.
- d) **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.**
Damaged or entangled cords increase the risk of electric shock.
- e) **When operating a power tool outdoors, use an extension cord suitable for outdoor use.**
Use of a cord suitable for outdoor use reduces the risk of electric shock
- f) **Recommendation for use of residual current device with a rated residual current of 30 mA or less.**

3) Personal safety

- a) **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.**
A moment of inattention while operating power tools may result in serious personal injury.
- b) **Use safety equipment. Always wear eye protection.**
Safety equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.

- c) **Avoid accidental starting. Ensure the switch is in the off position before plugging in.**
Carrying power tools with your finger on the switch or plugging in power tools that have the switch on invites accidents.

- d) **Remove any adjusting key or wrench before turning the power tool on.**
A wrench or a key left attached to a rotating part of the power tool may result in personal injury.

- e) **Do not overreach. Keep proper footing and balance at all times.**
This enables better control of the power tool in unexpected situations.

- f) **Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts.**
Loose clothes, jewellery or long hair can be caught in moving parts.

- g) **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.**
Use of these devices can reduce dust related hazards.

4) Power tool use and care

- a) **Do not force the power tool. Use the correct power tool for your application.**
The correct power tool will do the job better and safer at the rate for which it was designed.

- b) **Do not use the power tool if the switch does not turn it on and off.**
Any power tool that cannot be controlled with the switch is dangerous and must be repaired.

- c) **Disconnect the plug from the power source before making any adjustments, changing accessories, or storing power tools.**
Such preventive safety measures reduce the risk of starting the power tool accidentally.

- d) **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.**
Power tools are dangerous in the hands of untrained users.

- e) **Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tools operation.**
If damaged, have the power tool repaired before use.
Many accidents are caused by poorly maintained power tools.

- f) **Keep cutting tools sharp and clean.**
Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.

- g) **Use the power tool, accessories and tool bits etc., in accordance with these instructions and in the manner intended for the particular type of power tool, taking into account the working conditions and the work to be performed.**
Use of the power tool for operations different from intended could result in a hazardous situation.

5) Service

- a) **Have your power tool serviced by a qualified repair person using only identical replacement parts.**
This will ensure that the safety of the power tool is maintained.

PRECAUTION

Keep children and infirm persons away.

When not in use, tools should be stored out of reach of children and infirm persons.

SAFETY WARNINGS COMMON FOR SANDING OR POLISHING OPERATIONS

- a) **This power tool is intended to function as a sander or polisher tool. Read all safety warnings, instructions, illustrations and specifications provided with this power tool.**

Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

- b) **Operations such as grinding, wire brushing or cutting-off are not recommended to be performed with this power tool.**

Operations for which the power tool was not designed may create a hazard and cause personal injury.

- c) **Do not use accessories which are not specifically designed and recommended by the tool manufacturer.**

Just because the accessory can be attached to your power tool, it does not assure safe operation.

- d) **The rated speed of the accessory must be at least equal to the maximum speed marked on the power tool.**

Accessories running faster than their rated speed can break and fly apart.

- e) **The outside diameter and the thickness of your accessory must be within the capacity rating of your power tool.**

Incorrectly sized accessories cannot be adequately guarded or controlled.

- f) **The arbour size of wheels, flanges, backing pads or any other accessory must properly fit the spindle of the power tool.**

Accessories with arbour holes that do not match the mounting hardware of the power tool will run out of balance, vibrate excessively and may cause loss of control.

- g) **Do not use a damaged accessory. Before each use inspect the accessory such as abrasive wheels for chips and cracks, backing pad for cracks, tear or excess wear, wire brush for loose or cracked wires. If power tool or accessory is dropped, inspect for damage or install an undamaged accessory. After inspecting and installing an accessory, position yourself and bystanders away from the plane of the rotating accessory and run the power tool at maximum no-load speed for one minute.**

Damaged accessories will normally break apart during this test time.

- h) **Wear personal protective equipment. Depending on application, use face shield, safety goggles or safety glasses. As appropriate, wear dust mask, hearing protectors, gloves and workshop apron capable of stopping small abrasive or workpiece fragments.**

The eye protection must be capable of stopping flying debris generated by various operations. The dust mask or respirator must be capable of filtering particles generated by your operation. Prolonged exposure to high intensity noise may cause hearing loss.

- i) **Keep bystanders a safe distance away from work area. Anyone entering the work area must wear personal protective equipment.**

Fragments of workpiece or of a broken accessory may fly away and cause injury beyond immediate area of operation.

- j) **Hold power tool by insulated gripping surfaces only, when performing an operation where the cutting accessory may contact hidden wiring or its own cord.**

Cutting accessory contacting a "live" wire may make exposed metal parts of the power tool "live" and shock the operator.

- k) **Position the cord clear of the spinning accessory. If you lose control, the cord may be cut or snagged and your hand or arm may be pulled into the spinning accessory.**

- l) **Never lay the power tool down until the accessory has come to a complete stop.**

The spinning accessory may grab the surface and pull the power tool out of your control.

- m) **Do not run the power tool while carrying it at your side.**

Accidental contact with the spinning accessory could snag your clothing, pulling the accessory into your body.

- n) **Regularly clean the power tool's air vents.**

The motor's fan will draw the dust inside the housing and excessive accumulation of powdered metal may cause electrical hazards.

- o) **Do not operate the power tool near flammable materials.**

Sparks could ignite these materials.

- p) **Do not use accessories that require liquid coolants. Using water or other liquid coolants may result in electrocution or shock.**

KICKBACK AND RELATED WARNINGS

Kickback is a sudden reaction to a pinched or snagged rotating wheel, backing pad or any other accessory. Pinching or snagging causes rapid stalling of the rotating accessory which in turn causes the uncontrolled power tool to be forced in the direction opposite of the accessory's rotation at the point of the binding.

For example, if an abrasive wheel is snagged or pinched by the workpiece, the edge of the wheel that is entering into the pinch point can dig into the surface of the material causing the wheel to climb out or kick out. The wheel may either jump toward or away from the operator, depending on direction of the wheel's movement at the point of pinching. Abrasive wheels may also break under these conditions. Kickback is the result of power tool misuse and/or incorrect operating procedures or conditions and can be avoided by taking proper precautions as given below.

- a) **Maintain a firm grip on the power tool and position your body and arm to allow you to resist kickback forces. Always use auxiliary handle, if provided, for maximum control over kickback or torque reaction during start-up.**

The operator can control torque reactions or kickback forces, if proper precautions are taken.

- b) **Never place your hand near the rotating accessory. Accessory may kickback over your hand.**

- c) **Do not position your body in the area where power tool will move if kickback occurs.**
Kickback will propel the tool in direction opposite to the wheel's movement at the point of snagging.
- d) **Use special care when working corners, sharp edges etc. Avoid bouncing and snagging the accessory.**
Corners, sharp edges or bouncing have a tendency to snag the rotating accessory and cause loss of control or kickback.
- e) **Do not attach a saw chain woodcarving blade or toothed saw blade.**
Such blades create frequent kickback and loss of control.

SAFETY WARNINGS SPECIFIC FOR SANDING OPERATIONS

- a) **Do not use excessively oversized sanding disc paper. Follow manufacturers recommendations, when selecting sanding paper.**
Larger sanding paper extending beyond the sanding pad presents a laceration hazard and may cause snagging, tearing of the disc or kickback.

SPECIFICATIONS

Voltage	240V ~
Power input	380 W
No load speed	7000 / min
Disc Size	150 mm
Weight (without cord, standard accessories)	2.1 kg

STANDARD ACCESSORIES

- (1) Sanding Pad 1
 - (2) Sanding Paper (#120 without hole) 1
 - (3) Bar Wrench 1
 - (4) Side handle 1
 - (5) Hexagon Bar Wrench 1
 - (6) Dust Collection Set 1
- Standard accessories are subject to change without notice.

OPTIONAL ACCESSORIES-sold separately

- (1) Dust hose (1.5 m)
- (2) Sanding Paper (with hole & without hole)
- (3) Sanding Paper Punch

APPLICATIONS

Finishing of reparative coating of automobiles, painted metal plates, etc.

- Bordering between painted surfaces and metal surfaces.
 - Polishing polyester patties.
- Erasing letters, figures, etc., in reparative coating of billboards.

SAFETY WARNINGS SPECIFIC FOR POLISHING OPERATIONS

- a) **Do not allow any loose portion of the polishing bonnet or its attachment strings to spin freely. Tuck away or trim any loose attachment strings. Loose and spinning attachment strings can entangle your fingers or snag on the workpiece.**

PRECAUTIONS ON USING ELECTRONIC SANDER POLISHER

1. Never mount a grinding wheel and attempt to use this tool as a disc grinder.
2. Ensure the sanding paper is securely attached by pressing firmly.
3. Never apply grinding fluid or water to the unit or material during operation.
4. 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.

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, 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. **Attaching sanding paper:**
 - (1) As shown in **Fig. 1**, peel off the lining paper beginning at the slit part. Ensure that the adhesive on the back of the sanding paper does not become fouled with dust or other foreign matter.

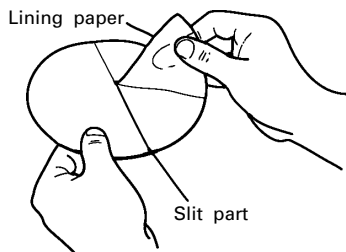


Fig. 1

- (2) After ensuring that the sanding pad is free of dust and oil, mount the sanding paper to the sanding pad as shown in Fig. 2, ensuring that the outer circumferences of the pad and paper are matched.

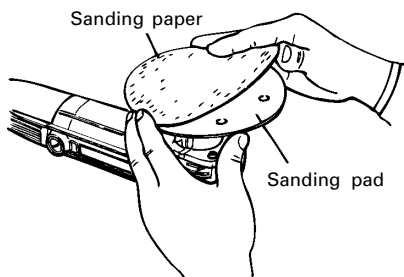


Fig. 2

- (3) Ensure that the sanding paper is securely attached to the pad by pressing the paper strongly with the palm of the hand, as shown in Fig. 3.

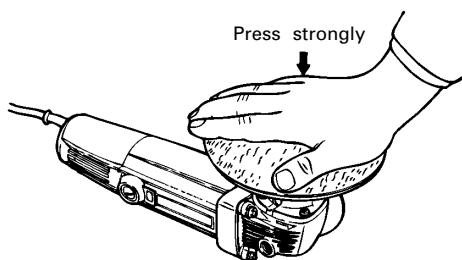


Fig. 3

CAUTION

If the sanding paper is not attached securely as described above, it could come off during operation, inviting serious injury. As the adhesive may deteriorate if the sanding paper is removed and reattached several times, the sanding paper should be aligned and attached securely in a single operation.

PRACTICAL OPERATING PROCEDURES

1. Turn the sander on after lightly applying it to the surface to be sanded. Never leave the rotating tool unattended.
2. Do not apply excessive pressure to the sander. Excessive pressure may result in deterioration of the sanded surface, and overloading of the tool.
3. Hold the housing and side handle of the sander securely during operation.
4. The sanding paper should be removed as soon as possible after completion of the operation. Sanding paper left on the pad for several days may be very difficult to remove.
5. After removing the sanding paper, ensure that any adhesive remaining on the sanding pad is removed completely by wiping it. Should any adhesive remain, dust and dirt will adhere to the pad, resulting in reduced adhesion when another sanding paper is mounted.
6. Do not attempt to reattach sanding paper to the pad once it has been removed. Reduced adhesive strength could cause the sanding paper to come flying off the pad, creating a serious hazard.

CAUTION

Immediately after use, DO NOT lay the tool down or touch the sanding pad until the rotation parts of the tool come to a complete stop. Laying the tool down in this manner could cause grit and dirt to be sucked into the tool. Touching the rotating sanding paper could cause serious injury.

REPLACING A SANDING PAD

1. Insert the accessory bar wrench into the groove of the spindle connector and the opening of the pad spindle, as shown in Fig. 4.

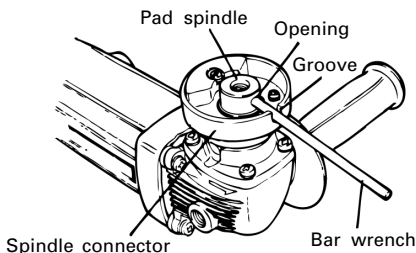


Fig. 4

2. Holding the bar wrench, the sanding pad is tightened by rotating in to the right (clockwise), and loosened by rotating it to the left (counterclockwise), as shown in Fig. 5.

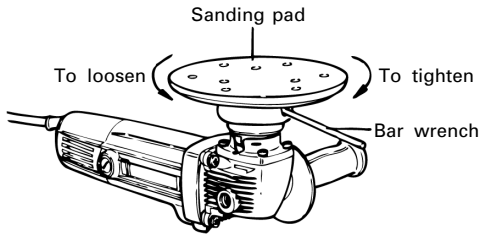


Fig. 5

7. Service parts list

CAUTION

Repair, modification and inspection of Hitachi Power Tools must be carried out by a Hitachi Authorized Service Center.

This Parts List will be helpful if presented with the tool to the Hitachi Authorized Service Center when requesting repair or other maintenance.

In the operation and maintenance of power tools, the safety regulations and standards prescribed in each country must be observed.

MODIFICATIONS

Hitachi Power Tools are constantly being improved and modified to incorporate the latest technological advancements.

Accordingly, some parts (i.e. code numbers and/or design) may be changed without prior notice.

NOTE

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

MAINTENANCE AND INSPECTION

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. Inspecting the carbon brushes (Fig. 6)

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

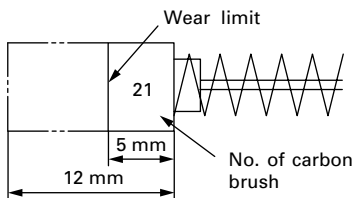


Fig. 6

3. Replacing a carbon brush:

Disassemble the brush cap with a minus-head screwdriver. The carbon brush can then be easily removed.

4. Replacing supply cord

If the supply cord of Tool is damaged, the Tool must be returned to Hitachi Authorized Service Center for the cord to be replaced.

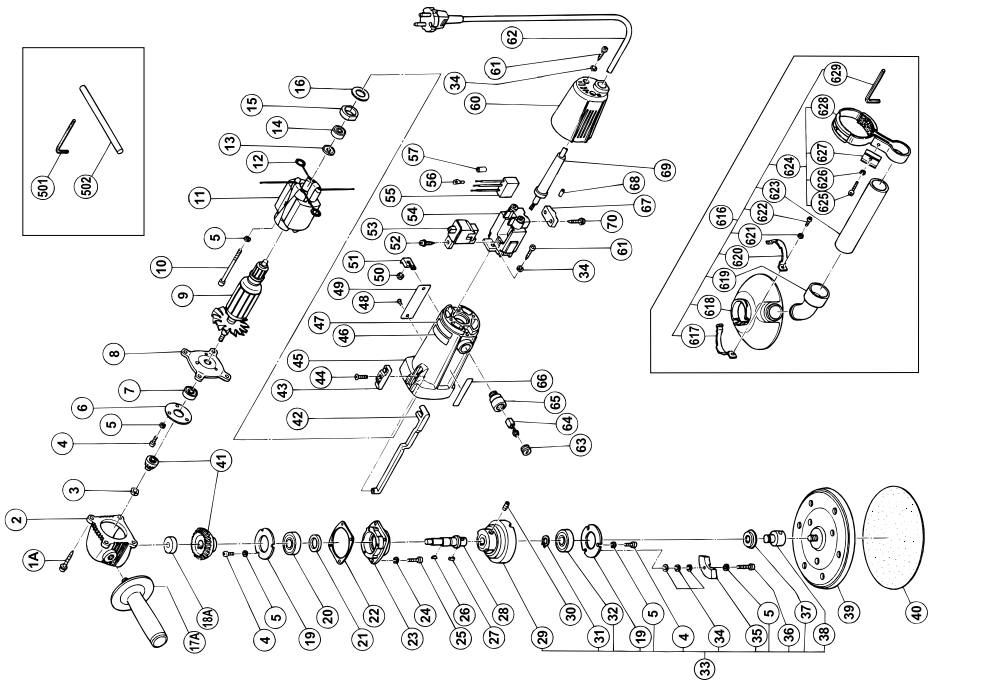
5. Maintenance of the motor

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.

6. Cleaning lock pin section

If the lock pin section becomes dirty, clean it at once.



Item No.	Part Name	Q'TY
1A	TAPPING SCREW D5x25	4
2	GEAR COVER	1
3	LOCK NUT M5	1
4	MACHINE SCREW M4x10	8
5	SPRING WASHER M4	11
6	BEARING COVER (A)	1
7	BALL BEARING 608VVC2PS2L	1
8	INNER COVER	1
9	ARMATURE	1
10	MACHINE SCREW M4x65	2
11	STATOR ASSY	1
12	BRUSH TERMINAL	2
13	DUST SEAL	1
14	BALL BEARING 626VVC2PS2L	1
15	BEARING BUSHING	1
16	STOP PLATE	1
17A	SIDE HANDLE	1
18A	METAL	1
19	BEARING COVER (B)	2
20	BALL BEARING 6201VVCMP2S2L	1
21	FELT PACKING	1
22	SEAL PACKING	1
23	PACKING GLAND	1
24	SPRING WASHER M5	4
25	MACHINE SCREW M5x16	1
26	WOODRUFF KEY 2.5x8	1
27	FEATHER KEY 4x4x8	1
28	SPINDLE (A)	1
29	SPINDLE CONNECTOR (A)	1
30	HEX SOCKET SET SCREW M6x12	1
31	RETAINING RING FOR D12 SHAFT	1
32	BALL BEARING 6201DDCMPS2L	1
33	CONNECTOR (A) ASSY	1
34	WASHER M4 (10 PCS.)	5
35	COUNTER WEIGHT	1
36	MACHINE SCREW M4x20	1
37	DUST SEAL	1
38	PAD SPINDLE	1
39	SANDING PAD 150MM	1
40	SANDING PAPER (A)	1
41	GEAR AND PINION ASSY	1
42	SLIDE BAR	1
43	SLIDE KNOB	1

Item No.	Part Name	Q'TY
44	FLAT HD. SCREW M3x10	1
45	HOUSING ASSY	1
46	CAUTION PLATE	1
47	CAUTION PLATE	2
48	RIVET D2.5x2.8	1
49	NAME PLATE	1
50	NUT M4	2
51	NUT COVER	2
52	TAPPING SCREW (W/WASHER) D4x12	1
53	SLIDE SWITCH	1
54	SWITCH HOLDER	1
55	NOISE SUPPRESSOR	1
56	TERMINAL 5005	1
57	TUBE (D)	2
60	TAIL COVER	1
61	TAPPING SCREW D4x16	4
62	CORD	1
63	BRUSH CAP	2
64	CARBON BRUSH	2
65	BRUSH HOLDER	2
66	HITACHI LABEL	1
67	CORD CLIP	1
68	TUBE (D)	2
69	CORD ARMOR	1
70	TAPPING SCREW (W/FLANGE) D4x16	2
501	HEX. BAR WRENCH 3MM	1
502	SPECIAL WRENCH	1
616	DUST COLLECTOR SET	1
617	DUST COVER HOLDER (A)	1
618	DUST COVER	1
619	JOINT	1
620	DUST COVER HOLDER (B)	1
621	SPRING WASHER M4	1
622	MACHINE SCREW M4x10	1
623	PIPE	1
624	PIPE HOLDER ASSY	1
625	MACHINE SCREW M5x20	1
626	SPRING WASHER M5	1
627	WASHER	1
628	RUBBER PACKING	2
629	HEX. BAR WRENCH 4MM	1

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812
Code No. 99470911 M
Printed in Malaysia