

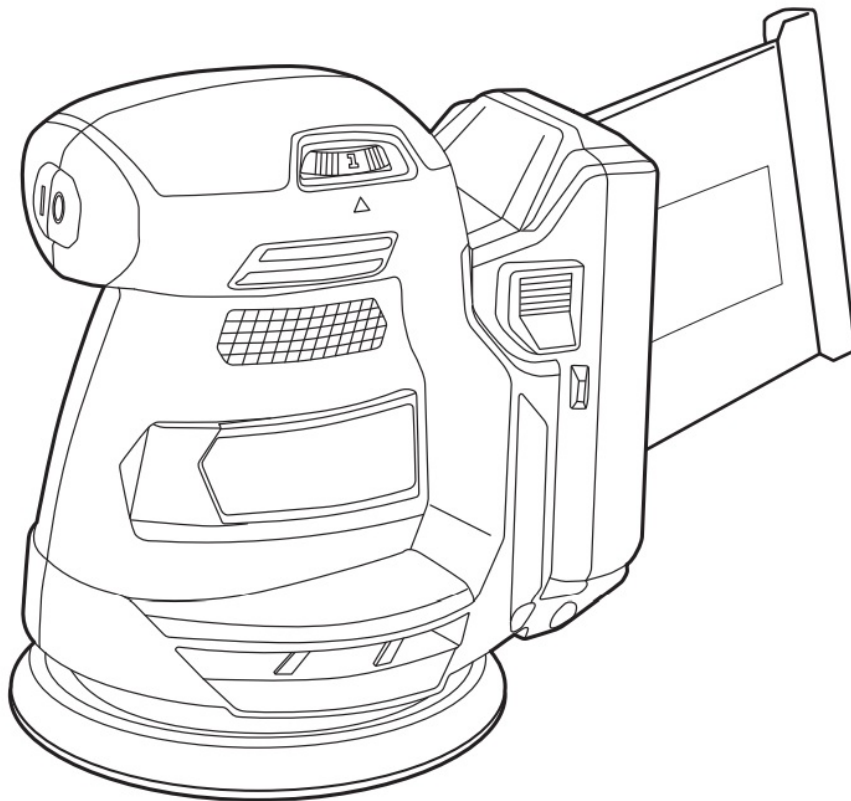


metabo SV 1813DA Cordless Random Orbit Sander Instruction Manual

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metabo **HPT**

Model
SV 1813DA
Cordless Random Orbit Sander



Without a charger and battery

Designed for operating in USA & Canada only. When this product is used in areas other than the USA & Canada, we cannot guarantee the product quality and performance.

SAFETY INSTRUCTIONS AND INSTRUCTION MANUAL



WARNING

IMPROPER OR UNSAFE use of this power tool can result in death or serious bodily injury! This manual contains important information about product safety. Please read and understand this manual **BEFORE** operating the power tool. Please keep this manual available for other users and owners before they use the power tool. This manual should be stored in a safe place.

IMPORTANT SAFETY INFORMATION

Read and understand all of the safety precautions, warnings, and operating instructions in the Instruction Manual before operating or maintaining this power tool.

Most accidents that result from power tool operation and maintenance are caused by the failure to observe basic safety rules or precautions. An accident can often be avoided by recognizing a potentially hazardous situation before it occurs, and by observing appropriate safety procedures.

Basic safety precautions are outlined in the “SAFETY” section of this Instruction Manual and in the sections which contain the operation and maintenance instructions.

Hazards that must be avoided to prevent bodily injury or machine damage are identified by **WARNINGS** on the power tool and in this Instruction Manual.

Never use this powerful tool in a manner that has not been specifically recommended by Metabo HPT.

MEANINGS OF SIGNAL WORDS

WARNING indicates a potentially hazardous situation that, if ignored, could result in death or serious injury.

CAUTION indicates a potentially hazardous situations that, if not avoided, may result in minor or moderate injury, or may cause machine damage.

NOTE emphasizes essential information.

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SAFETY

GENERAL POWER TOOL SAFETY WARNINGS



WARNING

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.

Save all warnings and instructions for future reference.

The term “power tool” in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

1. Work area safety

a) Keep the work area clean and well-lit.

Cluttered or 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 that may ignite dust or 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 the 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.

The use of a cord suitable for outdoor use reduces the risk of electric shock.

f) If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply.

The use of an RCD reduces the risk of electric shock.

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 personal protective equipment. Always wear eye protection.

Protective equipment such as a dust mask, non-skid safety shoes, hard hat, or hearing protection is used for appropriate personal injuries.

c) Prevent unintentional starting. Ensure the switch is in the off-position before connecting to a power source and/or battery pack, picking up or carrying the tool.

Carrying power tools with your finger on the switch or energizing 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 jewelry. Keep your hair and clothing away from moving parts.

Loose clothes, jewelry, 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.

The use of dust collection can reduce dust-related hazards.

h) Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.

A careless action can cause severe injury within a fraction of a second.

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 at 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 and/or remove the battery pack, if detachable, from the power tool 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 and accessories. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's 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, taking into account the working conditions and the work to be performed.

Use of the power tool for operations different from those intended could result in a hazardous situation.

h) Keep handles and grasping surfaces dry, clean, and free from oil and grease.

Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.

5. Battery tool use and care

a) Recharge only with the charger specified by the manufacturer.

A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.

b) Use power tools only with specifically designated battery packs.

Use of any other battery packs may create a risk of injury and fire.

c) When the battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects, that can make a connection from one terminal to another.

Shorting the battery terminals together may cause burns or a fire.

d) Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water.

If liquid contacts the eyes, additionally seek medical help

Liquid ejected from the battery may cause irritation or burns.

e) Do not use a battery pack or tool damaged or modified.

Damaged or that is modified batteries may exhibit unpredictable behavior resulting in fire, explosion or risk of injury.

f) Do not expose a battery pack or tool to fire or excessive temperature.

Exposure to fire or temperature above 265 °F may cause an explosion.

g) Follow all charging instructions and do not charge the battery pack or tool outside the temperature range

specified in the instructions.

Charging improperly or at temperatures outside the specified range may damage the battery and increase the risk of fire.

6. 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.

b) Never service damaged battery packs.

Service of battery packs should only be performed by the manufacturer or authorized service providers.

– WARNING –

To reduce the risk of injury, the user must read the instruction manual.

SPECIFIC SAFETY RULES AND SYMBOLS

1. Hold tools by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring.

Contact with a “live” wire will make exposed metal parts of the tool “live” and shock the operator.

2. Use clamps or another practical way to secure and support the workpiece to a stable platform.

Holding the work by hand or against your body leaves it unstable and may lead to loss of control.

3. ALWAYS wear ear protectors when using the tool for extended periods.



Prolonged exposure to high-intensity noise can cause hearing loss.

4. NEVER touch moving parts.

NEVER place your hands, fingers, or other body parts near the tool's moving parts.

5. NEVER operate without all guards in place.

NEVER operate this tool without all guards or safety features in place and in proper working order. If maintenance or servicing requires the removal of a guard or safety feature, be sure to replace the guard or safety feature before resuming the operation of the tool.

6. Use the right tool.

Don't force small tools or attachments to do the job of a heavy-duty tool. Don't use tools for purposes not intended—for example— don't use circular saw for cutting tree limbs or logs.

7. NEVER use a power tool for applications other than those specified.

NEVER use a power tool for applications other than those specified in the Instruction Manual.

8. Handle tool correctly.

Operate the tool according to the instructions provided herein. Do not drop or throw the tool. Never allow the tool to be operated by children, individuals unfamiliar with its operation or unauthorized personnel.

9. Keep all screws, bolts and covers tightly in place. Keep all screws, bolts, and plates tightly mounted. Check their condition periodically.

10. Do not use power tools if the plastic housing or handle is cracked

. Cracks in the tool's housing or handle can lead to electric shock. Such tools should not be used until repaired.

11. Accessories must be securely mounted to the tool.

Prevent potential injuries to yourself or others. Accessories which have been mounted to the tool should be secure and tight.

12. Keep motor air vent clean.

The tool's motor air vent must be kept clean so that air can freely flow at all times. Check for dust build-up frequently.

13. NEVER use a tool that is defective or operating abnormally.

If the tool appears to be operating unusually, making strange noises, or otherwise appears defective, stop using it immediately and arrange for repairs by a Metabo HPT authorized service center.

14. NEVER leave the tool running unattended.

Turn the power off. Don't leave the tool until it comes to a complete stop.

15. Carefully handle power tools.

Should a power tool be dropped or struck against hard materials inadvertently, it may be deformed, cracked, or damaged.

16. Do not wipe plastic parts with solvent.

Solvents such as gasoline, thinner benzene, carbon tetrachloride, and alcohol may damage and crack plastic parts. Do not wipe them with such solvents. Wipe plastic parts with a soft cloth lightly dampened with soapy water and dry thoroughly.



17. ALWAYS wear eye protection that meets the requirement of the latest revision of ANSI Standard Z87.1.

18. NEVER leave the random orbit sander on a table, the floor, etc. while it is spinning.

19. NEVER apply water or lubricating oil, otherwise, hazards from electrical shocks may result.

20. NEVER push the random orbit sander too strongly onto a surface. Pushing the random orbit sander too strongly may cause the sanding paper to tear or shorten the life of the sander itself.

21. ALWAYS operate the random orbit sander safely for correct use. This random orbit sander is a portable dry plane surface sander that was designed for finishing wood and metal surfaces and ground coats.

22. Make sure that there are no cracks, scratches, or other abnormalities on the pad before use.

23. Use the sanding paper and accessories specified by Metabo HPT.

24. Do not leave the tool running. Operate the tool only when hand-held.

25. When operating the tool, do not wear work gloves as such cloth wear can get caught in the tool.

26. When working at elevated locations, clear the area of other people and be aware of conditions below you.

27. When sanding metal, sparks are generated. Do not use the dust bag, and keep other persons and flammable substances away from the work area.

28. ALWAYS wear a protective mask when operating the random orbit sander. Ventilate your work area adequately when you perform sanding operations.

29. Definitions for symbols used in this tool

V.....volts



.....direct current

no..... no-load speed

—/minrevolutions or reciprocation per minute In the following cases, clean the dust bag and fully remove any dust.

Dust remaining in the dust bag may cause ignition.

- Sanding steel sheets after sanding materials such as wood

- After completing sanding work Do not throw sanding dust on an open fire because materials in fine particle form may be explosive:

30. Because the cordless power tool operates by battery power, be aware of the fact that it can begin to operate at any time.

31. When working at elevated locations, clear the area of other people and be aware of conditions below you.
32. Do not use the product if the tool or the battery terminals (battery mount) are deformed. Installing the battery could cause a short circuit that could result in smoke emission or ignition.
33. Keep the tool's terminals (battery mount) free of swarf and dust.
Prior to use, make sure that swarf and dust have not collected in the area of the terminals.
During use, try to avoid swarf or dust on the tool from falling on the battery.
When suspending operation or after use, do not leave the tool in an area where it may be exposed to falling swarf or dust.
Doing so could cause a short circuit that could result in smoke emission or ignition.
34. Always use the tool and battery at temperatures between 23°F (-5°C) and 104°F (40°C).

IMPORTANT SAFETY INSTRUCTIONS FOR BATTERY CHARGER

WARNING

Death or serious bodily injury could result from improper or unsafe use of battery chargers. To avoid these risks, follow these basic safety instructions:

READ ALL INSTRUCTIONS

1. This manual contains important safety and operating instructions for battery charger Model UC18YFSL.
2. Before using a battery charger, read all instructions and cautionary markings on (1) battery charger, (2) battery, and (3) product using the battery.
3. To reduce the risk of injury, charge Metabo I-PT rechargeable battery models of the multi-volt series and the BSL18 series. Other models of batteries may burst to cause personal injury and damage.
4. Use of an attachment not recommended or sold by the battery charger manufacturer may result in a risk of fire, electric shock, or injury to persons.
5. To reduce the risk of damage to the electric plug and cord, pull the plug when disconnecting the battery charger.
6. Make sure the cord is located so that it will not be stepped on, tripped over, or otherwise subjected to damage or stress.
7. An extension cord should not be used unless absolutely necessary. The use of an improper extension cord could result in a risk of fire and electric shock. If an extension cord must be used make sure:
 - a. That blades of the extension cord are the same number, size, and shape as those of plug on battery charger:
 - b. That extension cord is properly wired and in good electrical condition; and
 - c. That wire size is large enough for the AC ampere rating of the battery charger as specified in Table 1.

Table 1

RECOMMENDED MINIMUM AWG SIZE FOR EXTENSION CORDS FOR BATTERY CHARGERS

Table 1					
RECOMMENDED MINIMUM AWG SIZE FOR EXTENSION CORDS FOR BATTERY CHARGERS					
AC Input Rating Amperes*		AWG Size of Cord			
Equal to or greater than	but less than	Length of Cord, Feet (Meter)			
		25 (7.5)	50 (15)	100 (30)	150 (45)
0	2	18	18	18	16
2	3	18	18	16	14
3	4	18	18	16	14

*If the input rating of a battery charger is given in watts rather than in amperes, the corresponding ampere rating is to be determined by dividing the wattage rating by the voltage rating-for example:

$$\frac{1,250 \text{ watts}}{125 \text{ volts}} = 10 \text{ amperes}$$

8. Do not operate battery chargers with a damaged cord or plug-replace them immediately.
9. Do not operate the battery charger if it has received a sharp blow, been dropped, or otherwise damaged in any way; take it to a qualified serviceman.
10. Do not disassemble the battery charger; take it to a qualified serviceman when service or repair is required. Incorrect reassembly may result in a risk of electric shock or fire.
11. To reduce the risk of electric shock, unplug the charger from the receptacle before attempting any maintenance or cleaning. Removing the battery will not reduce this risk.

IMPORTANT SAFETY INSTRUCTIONS FOR THE USE OF THE BATTERY AND BATTERY CHARGER

You must charge the battery before you can use the power tool. Before using the model UC18YFSL battery charger, be sure to read all instructions and cautionary statements on it, the battery and in this manual. REMEMBER: USE ONLY Metabo HPT BATTERY MODELS OF THE BSL18 SERIES. OTHER MODELS OF BATTERIES MAY BURST AND CAUSE INJURY!

Follow these instructions to avoid the risk of injury:



WARNING Improper use of the battery or battery charger can lead to serious injury. To avoid these injuries:

1. NEVER disassemble the battery.
2. NEVER incinerate the battery, even if it is damaged or is completely worn out. The battery can explode in a fire.
3. NEVER short-circuit the battery.
4. NEVER insert any objects into the battery charger's air vents. Electric shock or damage to the battery charger may result.
5. NEVER charge outdoors. Keep the battery away from direct sunlight and use only where there is low humidity and good ventilation.
6. NEVER charge when the temperature is below 32°F (0°C) or above 104°F (40°C).
7. NEVER connect two battery chargers together.
8. NEVER insert foreign objects into the hole for the battery or the battery charger.
9. NEVER use a booster transformer when charging.
10. NEVER use DC power to charge.
11. NEVER store the battery or battery charger in places where the temperature may reach or exceed 104°F (40°C) such as inside a metal box or car.
12. NEVER expose the battery or battery charger to rain or wet conditions.
13. ALWAYS operate the charger on standard household electrical power (120 volts). Using the charger on any other voltage may overheat and damage the charger.
14. ALWAYS wait at least 15 minutes between charges to avoid overheating the charger.
15. ALWAYS disconnect the power cord from its receptacle when the charger is not in use.

CAUTION ON LITHIUM-ION BATTERY

To extend the lifetime, the lithium-ion battery equips with the protection function to stop the output. In the cases of 1 to 3 described below, when using this product, even if you are pulling the switch, the motor may stop. This is not

the trouble but the result of the protection function.

1. When the battery power remaining runs out, the motor stops. In such a case, charge it up immediately.
2. If the tool is overloaded, the motor may stop. In this case, release the switch of tool and eliminate causes of overloading. After that, you can use it again.
3. If the battery is overheated under overload work, the battery power may stop. In this case, stop using the battery and let the battery cool. After that, you can use it again. Furthermore, please heed the following warning and caution.



WARNING In order to prevent any battery leakage, heat generation, smoke emission, explosion, and ignition beforehand, please be sure to heed the following precautions.

1. Make sure that the swarf and dust do not collect on the battery.
 - During work make sure that swarf and dust do not fall on the battery.
 - Make sure that any swarf and dust falling on the power tool during work do not collect on the battery.
 - Do not store an unused battery in a location exposed to swarf and dust.
 - Before storing a battery, remove any swarf and dust that may adhere to it, and do not store it together with metal parts (screws, nails, etc.).
2. Do not pierce the battery with a sharp object such as a nail, strike with a hammer, step on, throw or subject the battery to severe physical shock.
3. Do not use an apparently damaged or deformed battery.
4. Do not use the battery for a purpose other than those specified.
5. If the battery charging fails to complete even when a specified recharging time has elapsed, immediately stop further recharging.
6. Do not put or subject the battery to high temperatures or high pressure such as into a microwave oven, dryer, or high-pressure container.
7. Keep away from fire immediately when leakage or foul odor are detected.
8. Do not use it in a location where strong static electricity generates.
9. If there is battery leakage, foul odor, heat generated, discolored or deformed, or in any way appears abnormal during use, recharging, or storage, immediately remove it from the equipment or battery charger and stop use.
10. Do not immerse the battery or allow any fluids to flow inside. Conductive liquid ingress, such as water, can cause damage resulting in fire or explosion. Store your battery in a cool, dry place, away from combustible and flammable items. Corrosive gas atmospheres must be avoided.



CAUTION

1. If liquid leaking from the battery gets into your eyes, do not rub your eyes and wash them well with fresh clean water such as tap water and contact a doctor immediately. If left untreated, the liquid may cause eye problems.
2. If liquid leaks onto your skin or clothes, wash well with clean water such as tap water immediately. There is a possibility that this can cause skin irritation.
3. If you find rust, foul odor, overheating, discolor, deformation, and/or other irregularities when using the battery for the first time, do not use it and return it to your supplier or vendor.



WARNING If an electrically conductive foreign object enters the terminals of the lithium-ion battery, a short-circuit may occur resulting in the risk of fire. Please observe the following matters when storing the battery.

○ Do not place electrically conductive cuttings, nails, steel wire, copper wire, or other wire in the storage case.

○ Either install the battery in the power tool or store it by securely pressing it into the battery cover until the ventilation holes are concealed to prevent short-circuits (See Fig. 3).

REGARDING LITHIUM-ION BATTERY TRANSPORTATION

When transporting a lithium-ion battery, please observe the following precautions.

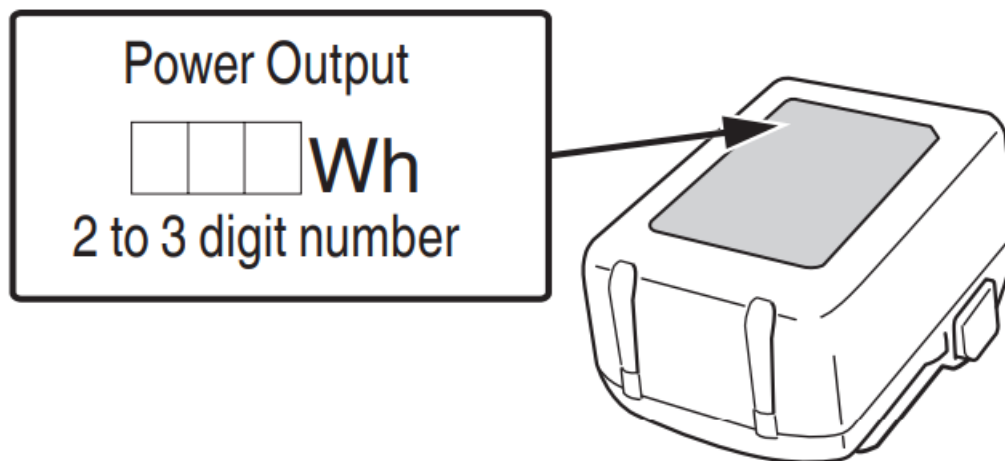


Fig. 1



WARNING Notify the transporting company that a package contains a lithium-ion battery, inform the company of its power output, and follow the instructions of the transportation company when arranging transport.

1. Lithium-ion batteries that exceed a power output of 100 Wh are considered to be in the freight classification of Dangerous Goods and will require special application procedures.
2. For transportation abroad, you must comply with international law and the rules and regulations of the destination country.

SAVE THESE INSTRUCTIONS AND MAKE THEM AVAILABLE TO OTHER USERS AND OWNERS OF THIS TOOL!

FUNCTIONAL DESCRIPTION

NOTE

The information contained in this Instruction Manual is designed to assist you in the safe operation and maintenance of the power tool.

NEVER operate, or attempt any maintenance on the tool unless you have first read and understood all safe instructions contained in this manual.

Some illustrations in this Instruction Manual may show details or attachments that differ from those on your own power tool.

NAME OF PARTS

1. Cordless Random Orbit Sander

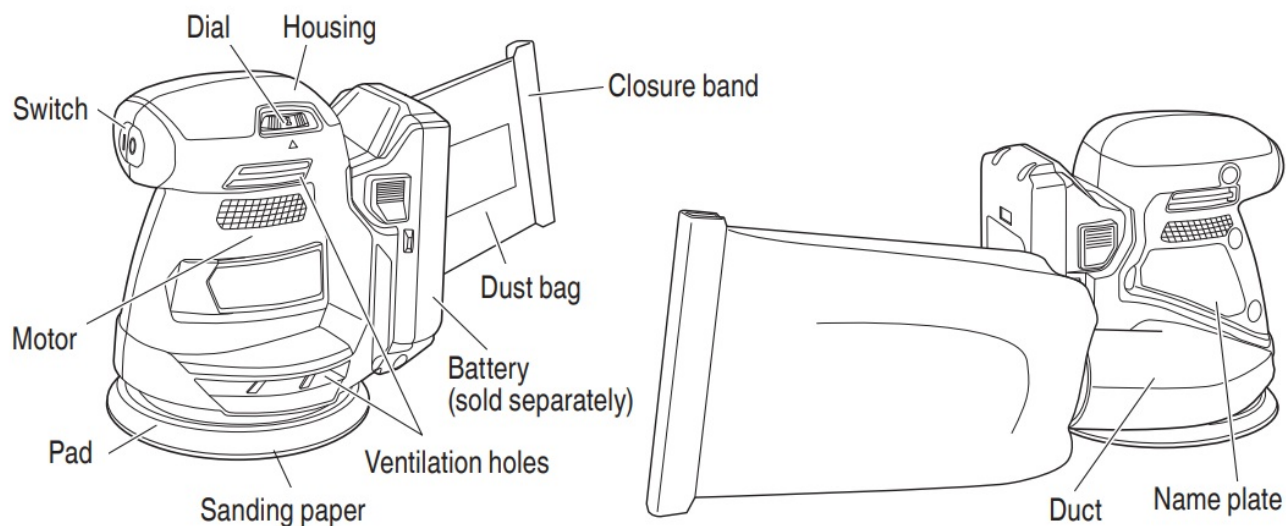
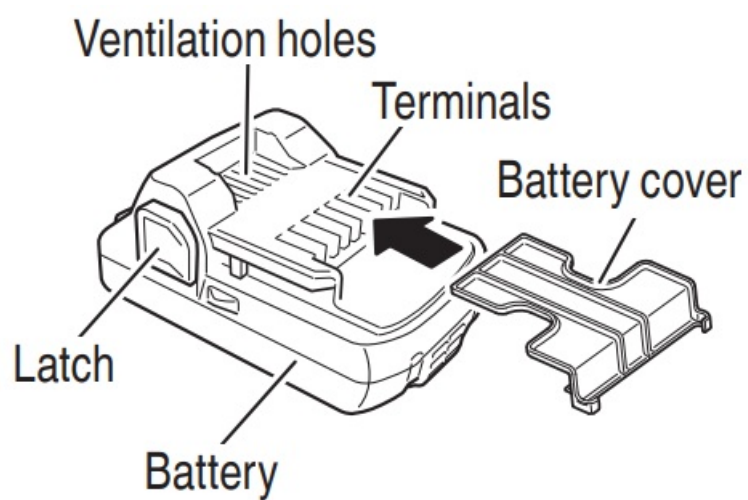


Fig. 2

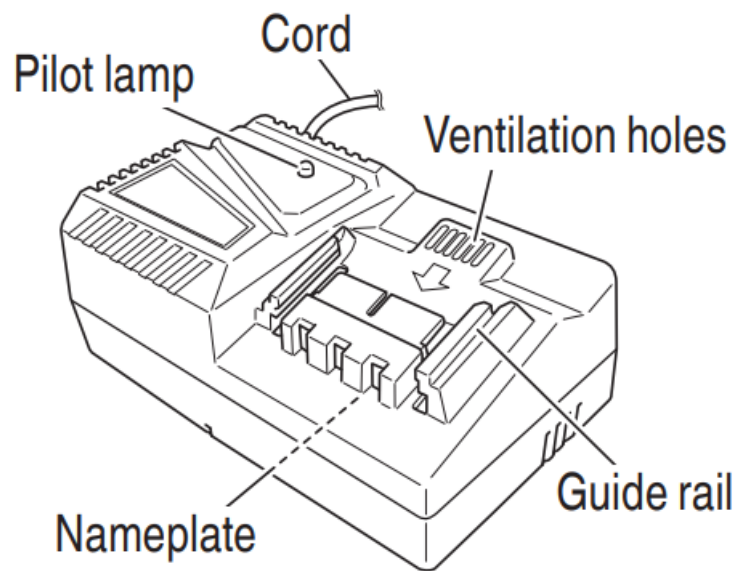
2. Battery



<BSL1830C>

Fig. 3

3. Battery Charger (optional accessories...sold separately) (optional accessories...sold separately)



<UC18YFSL>

Fig. 4

SPECIFICATIONS

1. Cordless Random Orbit Sander

Model		SV1813DA
Motor		DC motor
No-load speed		7,000-11,000 /min
Diameter of orbit		3 mm
Sanding pad size (Outer diameter)		5" (125 mm)
Sanding paper size (Outer diameter)		5" (125 mm)
Battery	Type	Li-ion battery Model BSL1830C
	Voltage	DC 18 V
Weight		3.5 lbs. (1.6 kg) (BSL1830C attached)

2. Battery Charger

Model UC18YFSL Input power source Single phase: AC 120 V 60 Hz Charging time (At a temperature of 68°F (20°C)) Approx. 45 min Charging voltage DC 14.4-18 V Charging current DC 3.5 A Weight 1.1 lbs. (0.5 kg)

Model	UC18YFSL
Input power source	Single-phase: AC 120 V 60 Hz
Charging time (At a temperature of 68°F (20°C))	Approx. 45 min
Charging voltage	DC 14.4-18 V
Charging current	DC 3.5 A
Weight	1.1 lbs. (0.5 kg)

NOTE: The charging time may vary according to temperature and power source voltage.

Electric control

Braking Function

The brake is activated when the switch is turned off, stopping the motor's rotation.

ASSEMBLY AND OPERATION

APPLICATIONS

- Roughing or finishing of woodwork and metal surfaces.
- Preliminary sanding of woodwork and metal surfaces before painting.
- Paint removal. ○ Rust removal.

INSTALLING AND REMOVING THE BATTERY

- How to install the battery. Align the battery with the groove in the tool and slip it into place. Always insert it all the way until it locks in place with a little click, If not, it may accidentally fall out of the tool, causing injury to you or someone around you (Fig. 5).
- How to remove the battery. Withdraw the battery from the tool while pressing the latch (2 pcs) of the battery (Fig. 5).

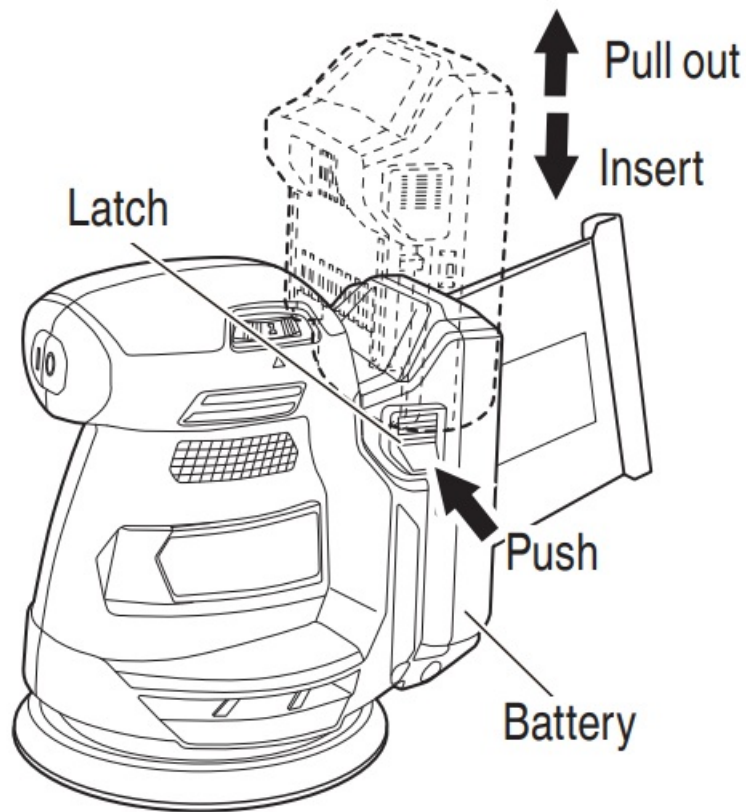


Fig. 5

CHARGING METHOD

NOTE Before plugging into the receptacle, make sure the following points.

- The power source voltage is stated on the nameplate.
- The cord is not damaged.



WARNING Do not charge at a voltage higher than indicated on the nameplate. If charged at a voltage higher than indicated on the nameplate, the charger will burn out.

1. Connect the charger's power cord to a receptacle. When the power cord is connected, the charge indicator lamp will blink in red. (At 1-second intervals)



WARNING Do not use the electrical cord if it is damaged. Has it been repaired immediately?



2. Insert the battery into the battery charger. Firmly insert the battery into the battery charger as shown in Fig. 6.

(3) Regarding recharging time (At 68°F (20°C))

Table 4 Charging time

<div>Battery</div>	Charger	UC18YFSL
	BSL1830C	Approx. 45 min

NOTE The recharging time may vary according to the ambient temperature.

4. Disconnect the battery charger from the receptacle.



CAUTION Do not pull the plug out of the receptacle by pulling on the cord.

Make sure to grasp the plug when removing it from the receptacle to avoid damaging the cord.

5. Remove the battery from the battery charger. Supporting the battery charger with a hand, pull out the battery from the battery charger.

NOTE Be sure to pull out the battery from the battery charger after use, and then keep it.

Regarding electric discharge in case of new batteries, etc.

As the internal chemical substance of new batteries and batteries that have not been used for an extended period is not activated, the electric discharge might be low when using them the first and second time. This is a temporary phenomenon, and the normal time required for recharging will be restored by recharging the batteries 2-3 times.

How to make the batteries perform longer

1. Recharge the batteries before they become completely exhausted. When you feel that the power of the tool becomes weaker, stop using the tool and recharge its battery. If you continue to use the tool and exhaust the electric current, the battery may be damaged and its life will become shorter. Avoid recharging at high temperatures.
2. A rechargeable battery will be hot immediately after use. If such a battery is recharged immediately after use, its internal chemical substance will deteriorate, and the battery life will be shortened. Leave the battery and recharge it after it has cooled for a while.



CAUTION

- When the battery charger has been continuously used, the battery charger will be heated, thus constituting the cause of the failures. Once the charging has been completed, give 15 minutes rest until the next charging.
- If the battery is charged while it is heated because it has been left for a long time in a location subject to direct sunlight or because the battery has just been used, the pilot lamp of the charger lights for 1 second, but does not light for 0.5 seconds (off for 0.5 seconds). The battery will not be recharged. In such a case, let the battery cool before charging.
- When the pilot lamp flickers (at 0.2-second intervals), check for and take out any foreign objects in the charger's battery connector. If there are no foreign objects, it is probable that the battery or charger is malfunctioning. Take it to your authorized Service Center.

PRIOR TO OPERATION



WARNING To avoid serious accidents, ensure the switch is in the OFF position, and pull out the battery.

1. Check the work area environment

Check the work area to make sure that it is clear of debris and clutter.

Clear the area of unnecessary personnel.

Ensure that lighting and ventilation is adequate.

2. Power switch

Ensure that the switch is in the OFF position.

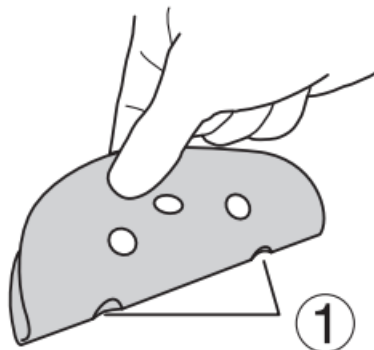
3. Installing the sanding paper



CAUTION Use only sanding paper size specified on the product nameplate.

○ Do not use accessories with poor adhesion. Since the attachment is a hook-and-loop type, the sanding paper can be installed easily by just pressing it onto the pad.

(1) Gently pinch and hold together two places on the edges of the sanding paper so that two holes are visible on the bottom. (Fig. 7-a)



① Hold the sanding paper so that two of its holes are visible on the bottom

Fig. 7-a

(2) Overlap the two holes of the sanding paper with two holes of the pad, and attach the whole surface of the sanding paper to the pad so that the remaining holes are also aligned. (Fig. 7-b)

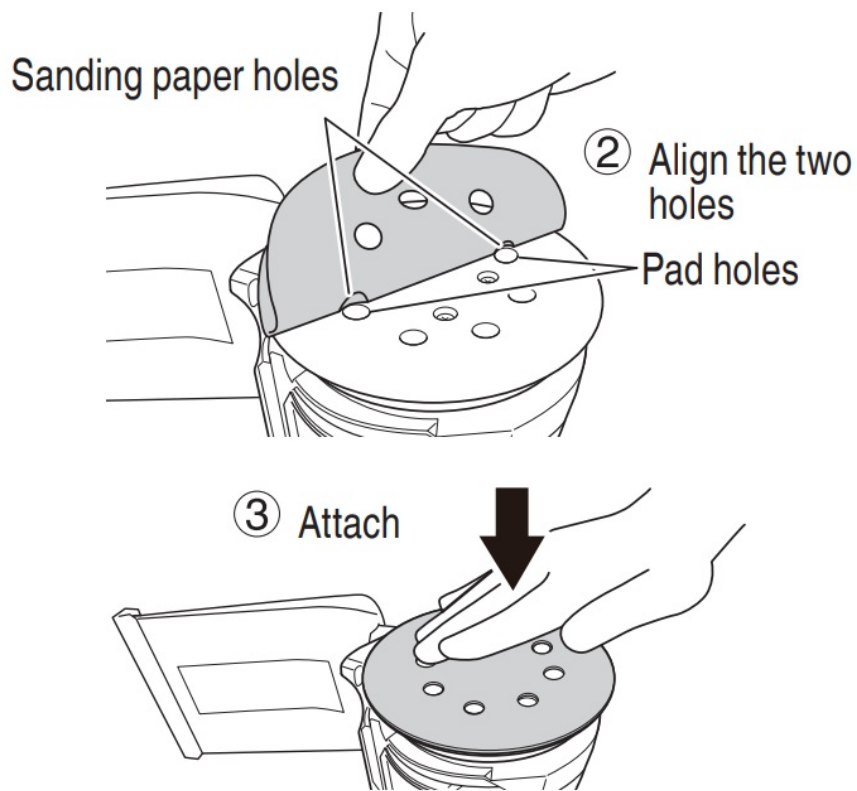


Fig. 7-b

4. Attaching and Removing the Dust bag (Fig. 8)

- (1) Attaching the Dust bag Insert the dust bag into the duct on the body of the power tool.
- (2) Removing the Dust bag Hold the duct, and pull out the dust bag.

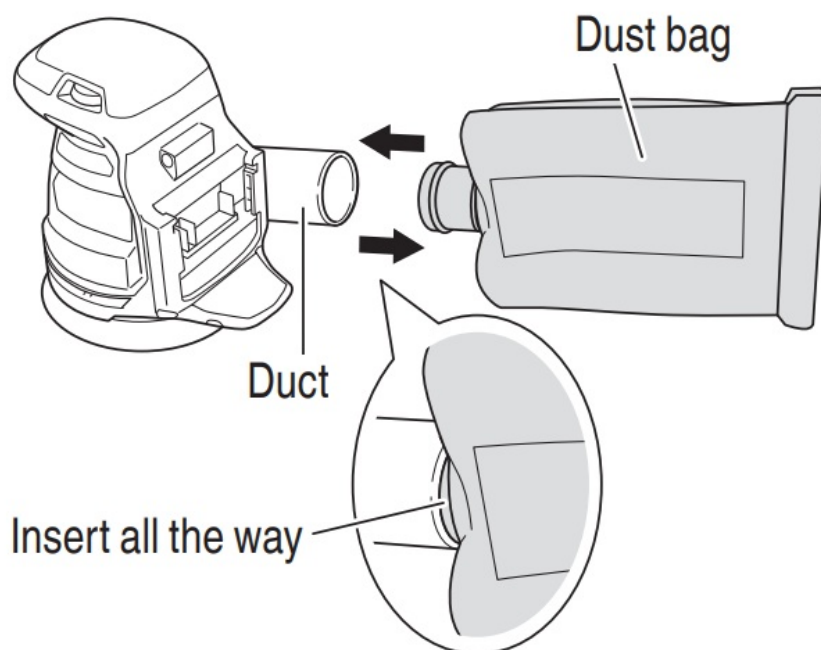


Fig. 8

WARNING

Prior to the sanding operation, make sure the material of surface you are going to sand. If the surface under sanding operation is expected to generate harmful or toxic dusts such as lead painted surface, make sure the dust bag or appropriate dust extraction system is connected with dust outlet tightly. Wear the dust mask additionally, if available. Do not inhale or touch the harmful or toxic dusts generated in sanding operation, the dust can endanger the health of yourself and bystanders.



CAUTION If too much dust accumulates in the dust bag, the dust collection power will be reduced.

Dispose of dust as soon as possible.

5. Adjustment of speed The sander is equipped with an electric control circuit that enables speed control. To adjust the speed, turn the dial shown in Fig. 9. When the dial is set to “1”, the sander operates at the minimum speed (7,000 /min).

When the dial is set to “6”, the sander operates at the maximum speed (11,000 /min). Adjust the speed according to the material to be cut and working efficiency.

Table 5 By adjusting the dial, match the speed to the material and type of work.

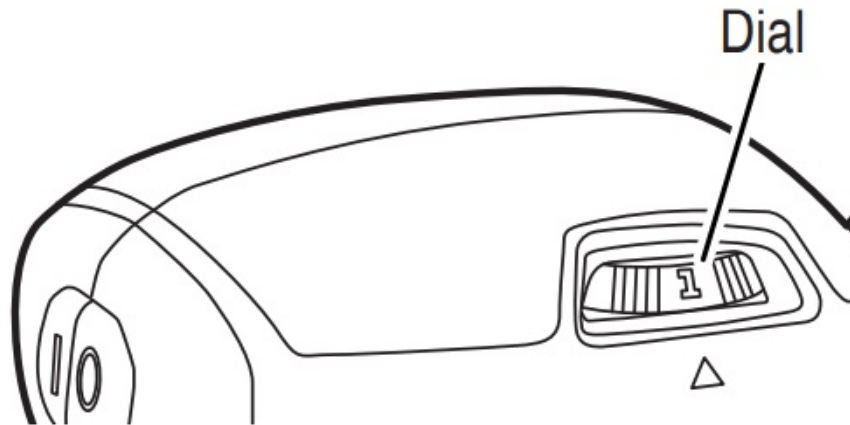


Fig. 9

Material	Grain		Dial scale
	Rough grinding	Fine grinding	
Paintwork:			
Sanding	180	400	3-6
Repairs (scratches, rust spots)	120	240	2-4
Stripping	40	80	2-4
Wood:			
Softwood	60-80	240	3-6
Hardwood	60	180	3-5
Veneers	240	320	2-4
Metals:			
Aluminum	80	240	2-4
Steel	60	240	3-6
Stainless steel	120	240	3-6

NOTE Please use this table as a standard.

6. Confirm the switch is in the OFF position



CAUTION Before installing or removing the battery, turn the switch to the OFF position. If the battery is inserted with the switch in the ON position, the motor will operate unexpectedly.

7. Check battery insertion



CAUTION Until the battery locks in place with a little click, if not, it may accidentally fall out of the tool causing injury to you or someone around you.

OPERATION



WARNING

- Be sure to turn off the switch, then remove the battery from the tool in the following situations:
- When stopping or ending work
- When attaching or removing accessories or optional parts
- When maintaining, inspecting, or storing the tool



CAUTION

- To extend the lifetime, the tool and the lithium-ion battery are equipped with a protection function to stop the output. Therefore, if the tool is overloaded, the motor may stop. However, this is not the trouble but the result of the protection function. In this case, release the switch of tool and eliminate the causes of overloading. Additionally, refer to “CAUTION ON LITHIUM-ION BATTERY”. If it still does not run, request repairs from a Metabo HPT authorized service center.



WARNING Never applies water or grinding fluid when sanding. This could result in electrical shock.

1. How to hold the random orbit sander While gripping the housing, lightly press the sander against the surface to be sanded so that the sanding paper uniformly contacts the surface, as shown in Fig. 10. DO NOT apply excessive pressure to the sander while sanding. Excessive pressure may cause an overload of the motor, reduced service life of the sanding paper, and lowered sanding or polishing efficiency.

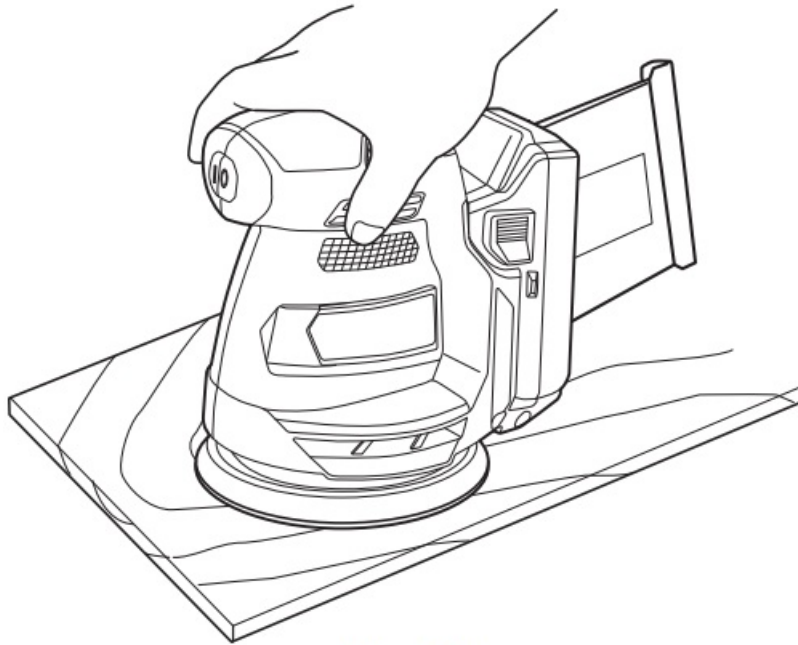


Fig. 10

2. How to move the random orbit sander Move the sander by either moving it up and down or by moving it in circles while gradually progressing in a sideways direction. (Figs. 11 and 12)

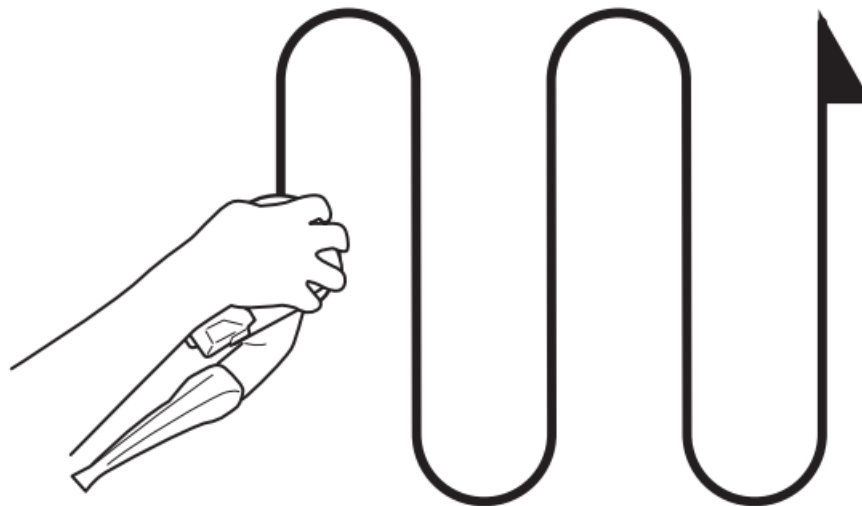


Fig. 11

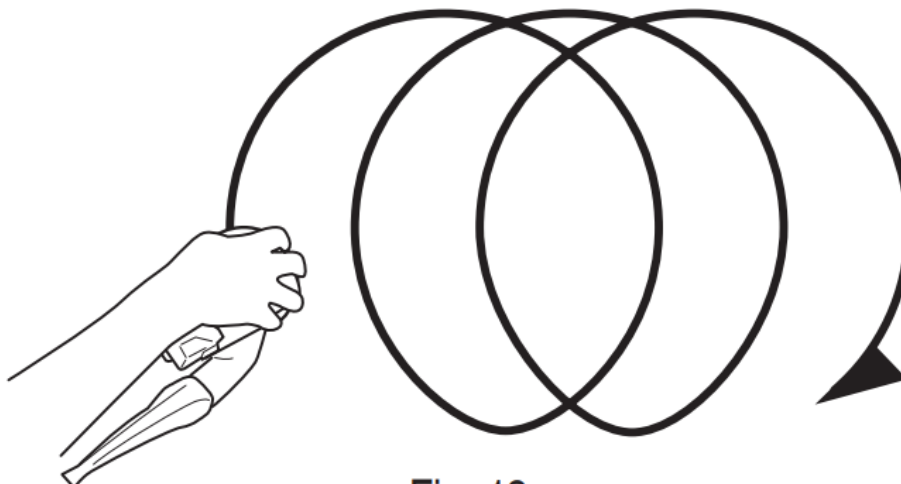


Fig. 12

3. Switching the sander ON and OFF (Fig. 13) The power can be turned on by setting the switch to ON (I) and turned off by setting the switch to OFF (0).

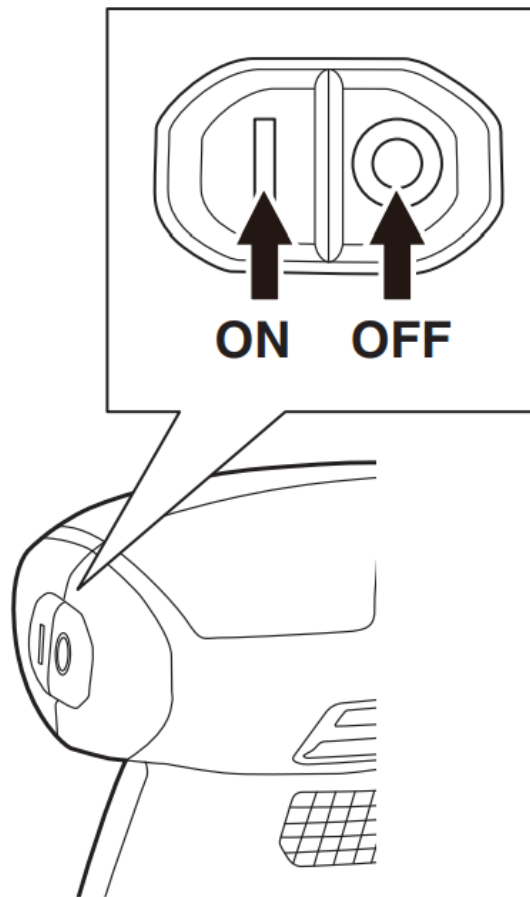


Fig. 13

NOTE Never turn the power switch ON when the sander is contacting the surface to be sanded. This is necessary to preclude damage to the material. The same applies when switching the power OFF.



CAUTION

- Immediately after use, always ensure that the switch is in the OFF position and pull out the battery.
- Since the sander may suck in dust and debris, be careful not to place it where there is much dust and debris when it is still spinning right after use.
- Looking from above, the sanding pad rotates clockwise during the loaded operation, but it may rotate counterclockwise during the no-load operation.
- Never run the tool without the sanding paper. You may seriously damage the pad.
- Using the tool with the pad edge contacting the workpiece may damage the pad.

NOTE Movement of the sander may tend to become unsteady after new sanding paper has been installed, because of the new, coarse grain of the paper. This can be avoided by slightly tilting the sander forward or backward during sanding or polishing. Sander movement will become steady as the sanding paper surface becomes properly abraded.

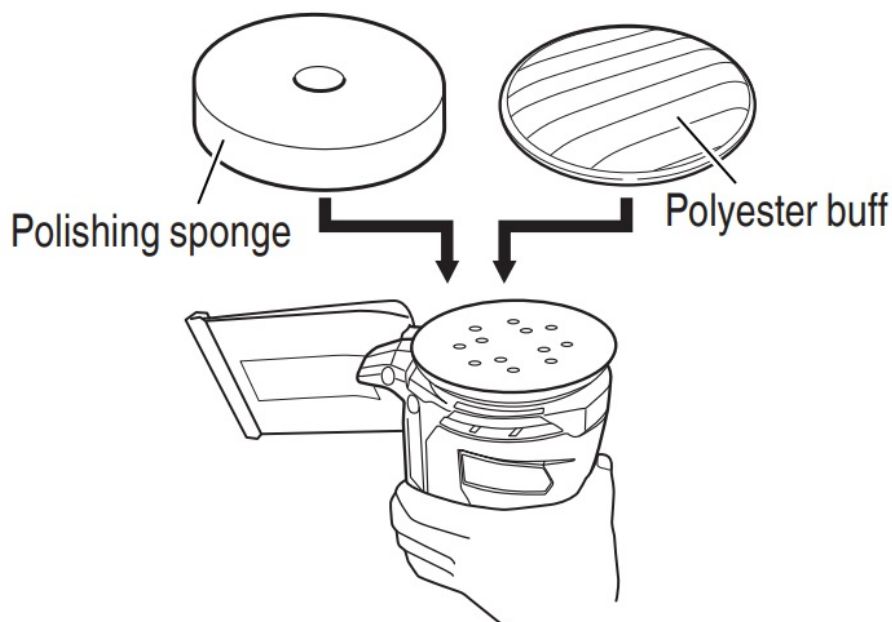


Fig. 14

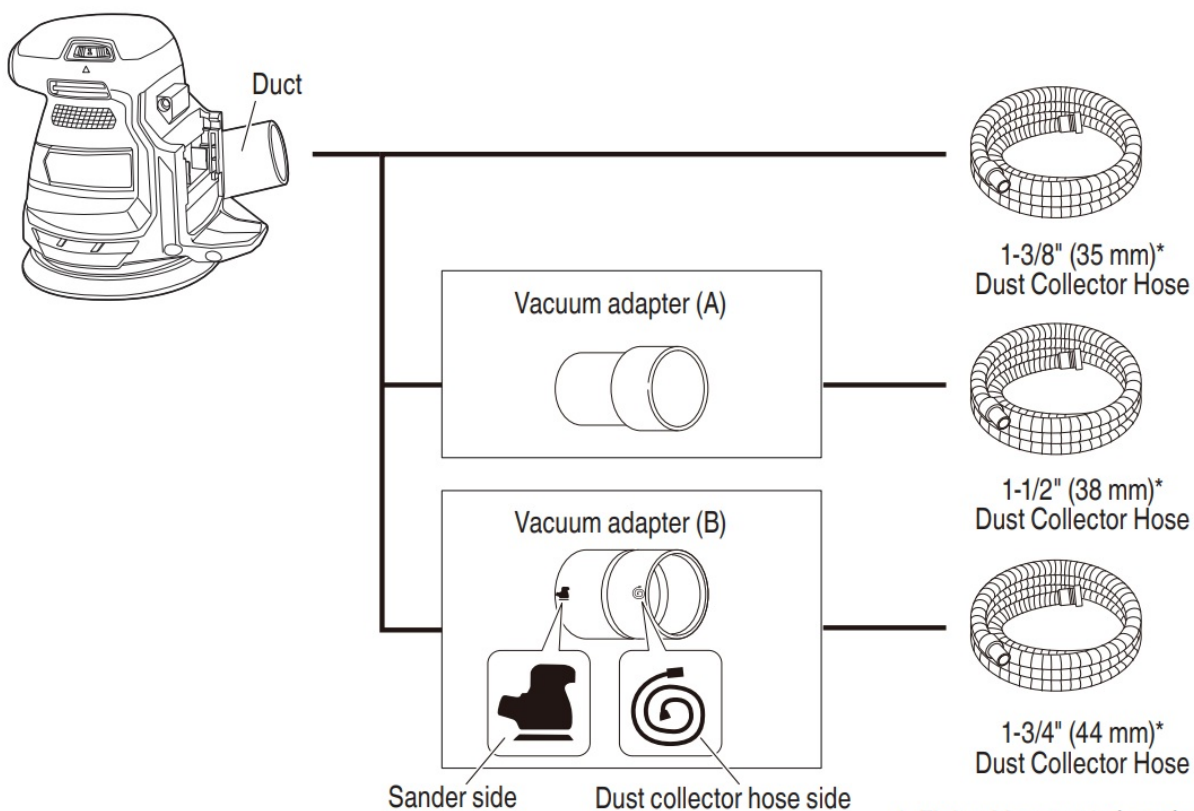
HOW TO INSTALL THE OPTIONAL ACCESSORIES

WARNING To avoid serious accidents, ensure the switch is in the OFF position and pull out the battery.

1. Installing the polyester buff or the polishing sponge. Since the attachment is a hook-and-loop type as with the sanding paper, the polyester buff or the polishing sponge can be mounted by just pressing it onto the pad (Fig. 14).

ATTACHING THE DUST COLLECTOR

External extraction system: Connect a suitable extraction device. Use a suction hose with vacuum adapter (A) or (B) if necessary.



* Fitting Measure is for reference.

Fig. 15

MAINTENANCE AND INSPECTION



- Be sure to turn off the switch and pull out the battery before doing any inspection or maintenance.

1. Emptying and cleaning the dust bag (Fig. 16) If the dust bag contains too much dust, dust collection will be affected. Empty the dust bag when it gets full. Remove the dust bag, detach the closure band and dispose of the contents.

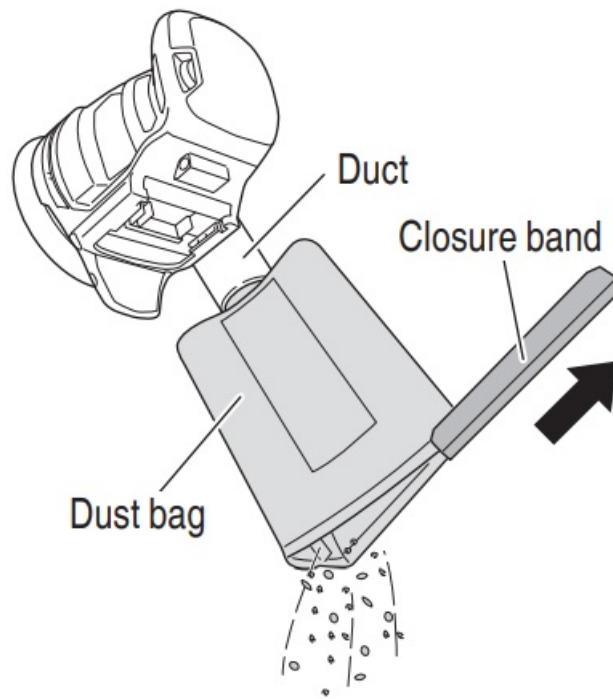


Fig. 16

2. Inspecting the sanding paper Since the use of worn-out sanding paper will degrade efficiency and cause possible damage to the pad, replace the sanding paper as soon as excessive abrasion is noted.
3. Inspecting the screws Regularly inspect all screws and ensure that they are fully tightened. Should any of the screws be loosened, retighten them immediately.



CAUTION Using this power tool with loosened screws is extremely dangerous.

4. Maintenance of 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.
5. Inspection of terminals (tool and battery) Check to make sure that swarf and dust have not been collected on the terminals. On occasion check prior, during, and after the operation.



CAUTION Remove any swarf or dust which may have collected on the terminals. Failure to do so may result in malfunction.

6. Check for Dust



WARNING Wear protective glasses and a dust mask when cleaning the filter with an air gun. Failure to do so may result in inhalation or exposure of the eyes to debris or dust. Use an air gun or other similar tool to remove materials, chips, etc. which have adhered to the body, and wipe with a soft dry cloth or a cloth moistened with soapy water. Do not use chloric solvents, gasoline, or paint thinner, for they melt plastics.

7. Disposal of the exhausted battery



WARNING Do not dispose of the exhausted battery. The battery must explode if it is incinerated. The battery is recyclable. At the end of its useful life, under various state and local laws, it may be illegal to dispose of this battery in the municipal waste stream. Check with your local solid waste officials for details in your area for recycling options or proper disposal.

8. Storage

Storing in a place below 104°F (40°C) and out of the reach of children.

NOTE

Storing lithium-ion batteries Make sure the lithium-ion batteries have been fully charged before storing them. Prolonged storage (3 months or more) of batteries with a low charge may result in performance deterioration, significantly reducing battery usage time or rendering the batteries incapable of holding a charge. However, significantly reduced battery usage time may be recovered by repeatedly charging and using the batteries two to five times. If the battery usage time is extremely short despite repeated charging and use, consider the batteries dead and purchase new batteries.

9. Service and repairs All quality power tools will eventually require servicing or replacement of parts because of wear from normal use. To assure that only authorized replacement parts will be used, all service and repairs must be performed by a Metabo HPT AUTHORIZED SERVICE CENTER, ONLY.



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

Important notice on the batteries for the Metabo HPT cordless power tools

Please always use one of our designated genuine batteries. We cannot guarantee the safety and performance of our cordless power tool when used with batteries other than those designated by us, or when the battery is disassembled and modified (such as disassembly and replacement of cells or other internal parts).

ACCESSORIES



WARNING

ALWAYS use Only authorized Metabo HPT replacement parts and accessories. Never use replacement parts or accessories which are not intended for use with this tool. Contact Metabo HPT if you are not sure whether it is safe to use a particular replacement part or accessory with your tool. The use of any other attachment or accessory can be dangerous and could cause injury or mechanical damage.

NOTE Accessories are subject to change without any obligation on the part of the Metabo HPT.

STANDARD ACCESSORIES

SV1813DA (NN)	0	Sanding paper	2
	0	Dust bag (Code No. 373406)	1
	0	Vacuum adapter (A) (Code No. 378837)	1
	0	Vacuum adapter (B) (Code No. 378838)	1

The battery, Battery charger, and Battery cover are not contained.

OPTIONAL ACCESSORIES sold separately

1. Sanding paper

Size (Outer diameter)	Type	Grit No.	Code No.
5" (125 mm)	Velcro-type	A-P40	308516M
		A-P60	308517M
		A-P80	308518M
		A-P120	308519M
		A-P180	308520M
		A-P240	308521M
		A-P320	308522M
		A-P400	308523M

2. Polyester buff (Code No. 308515)
3. Polishing sponge (Code No. 312518)
4. Battery (BSL1830C)
5. Battery charger (UC18YFSL)
6. Battery cover (Code No. 329897)

NOTE Specifications are subject to change without any obligation on the part of the Metabo HPT.

WARNING: Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm. Some examples of these chemicals are:

- Lead from lead-based paints,
- Crystalline silica from bricks and cement and other masonry products, and
- Arsenic and chromium from chemically treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well-ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.



Please contact Koki Holdings America Ltd. at 1-800-59-TOOLS (toll-free), or Metabo HPT AUTHORIZED POWER TOOL SERVICE CENTER regarding COLLECTION.

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Documents / Resources

	<p>metabo SV 1813DA Cordless Random Orbit Sander [pdf] Instruction Manual SV 1813DA Cordless Random Orbit Sander, SV 1813DA, Cordless Random Orbit Sander</p>
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Manuals+.