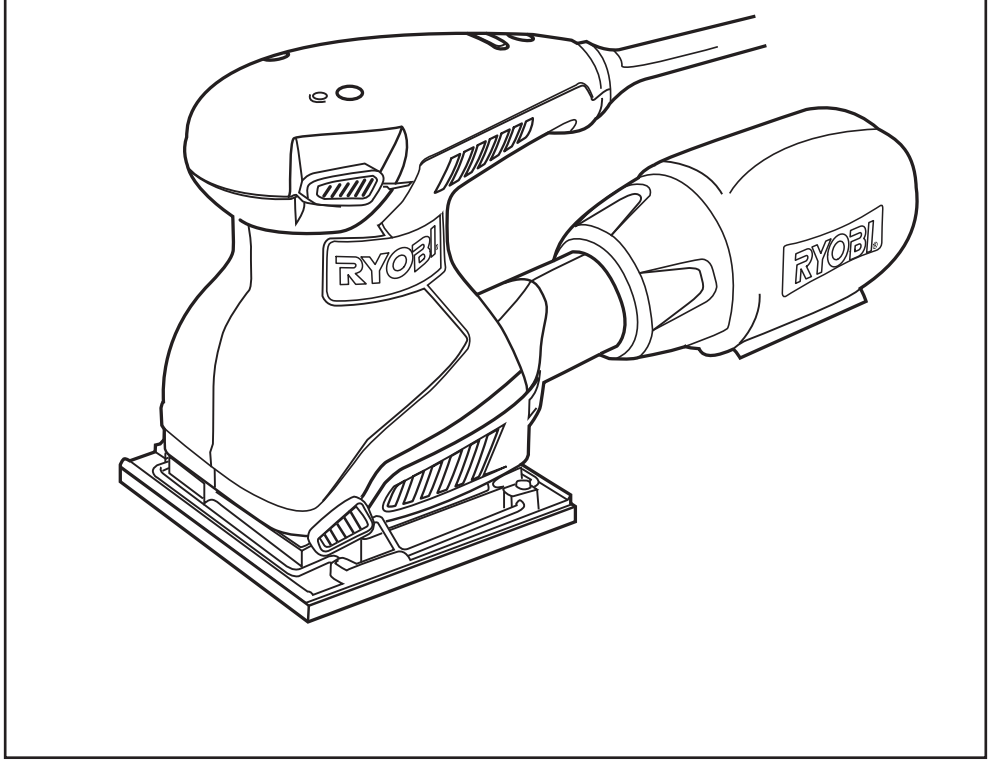
RYOBI®

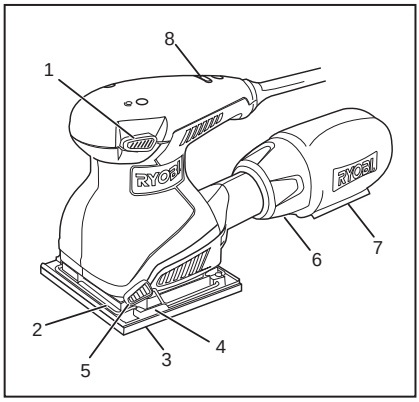
ESS2414RG / ESS2414K

1/4 SHEET SANDER
OWNER'S OPERATING MANUAL



DESCRIPTION

1. Switch
2. Paper clamp
3. Cushion
4. Tab
5. Lever
6. Dust bag frame
7. Dust bag
8. Live tool indicator
9. Paper punch
10. Base
11. Non-adhesive sandpaper



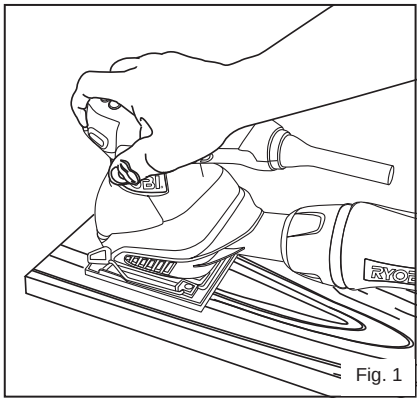


Fig. 1

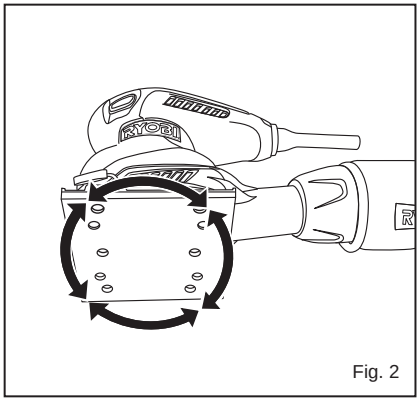


Fig. 2

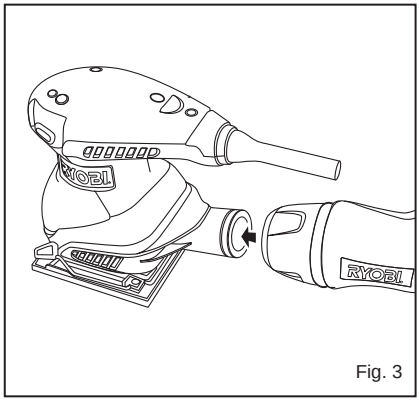


Fig. 3

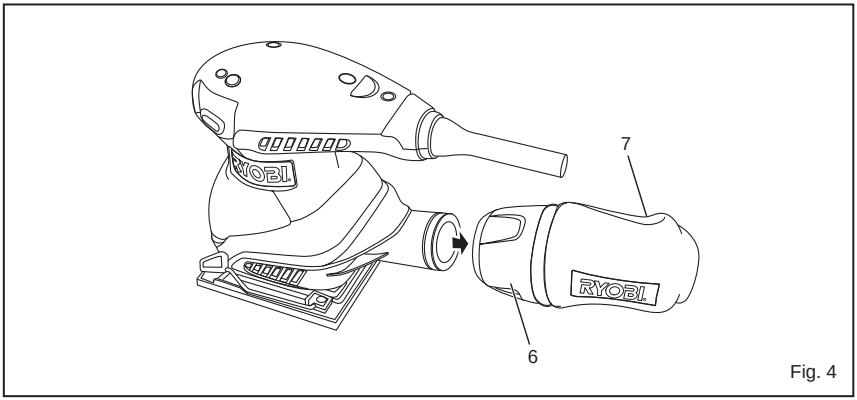


Fig. 4

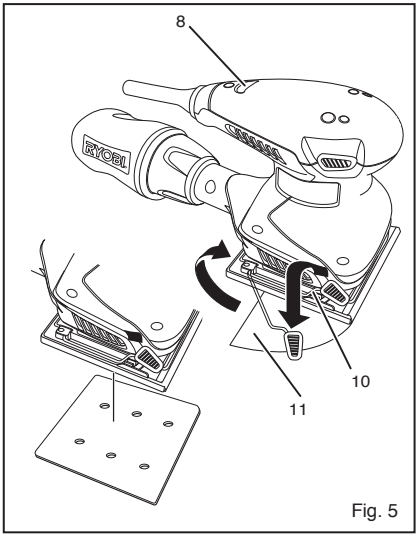


Fig. 5

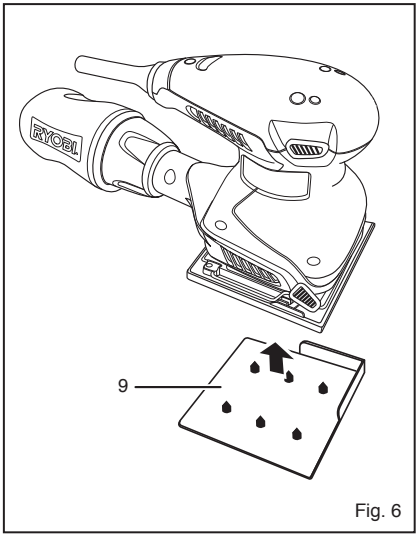


Fig. 6

Important!

It is essential that you read the instructions in this manual before operating this machine.

Subject to technical modifications.

GENERAL POWER TOOL SAFETY WARNINGS

⚠ WARNING

Read all safety warnings and all instructions. Failure to follow the warnings and instructions 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 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 which may ignite the 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 adaptor 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. **If operating power tools in a damp location is unavoidable, use a residual current device (RCD) protected supply.** 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 dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.

c. **Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energising 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 dust collection 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 can not be controlled with the switch is dangerous and must be repaired.

c. **Disconnect the plug from the power source and/or the battery pack 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. 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.

SPECIFIC SAFETY INSTRUCTIONS FOR SANDERS

- **Always wear safety goggles and a dust mask** when sanding, especially sanding over-head.
- **The product is not suitable for wet sanding.**
- **Do not use sanding paper larger than needed.** Extra paper extending beyond the sanding pad can also cause serious lacerations.
- **The dust bag shall be equipped with the product.** It should be emptied frequently. To connect a dust bag, insert the adaptor of dust bag to the dust-collection opening on the rear end of the sander.

⚠ WARNING

Do not throw sanding dust on an open fire because materials in fine particle form may be explosive.

⚠ WARNING

A suitable breathing respirator must be worn while sanding lead paint, some wood and metal to avoid breathing the harmful/toxic dust or air.

Additional safety instructions

⚠ WARNING

The product is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the product by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the product.

- **Keep children and visitors away.** Visitors should wear safety glasses and be kept a safe distance from work area. Do not let visitors contact tool or extension cord.
- It is recommended that this tool always be supplied via a residual current device with a rated residual current of 30mA or less.

SYMBOLS


Safety alert

V Volts

Hz Hertz

∿ Alternating current

W Watts

n_0 No-load speed

min^{-1} Revolutions or reciprocations per minute


Orbital diameter


Regulatory Compliance Mark (RCM). Product meets applicable regulatory requirements.


Double insulation


Wear ear protection


Wear eye protection


Please read the instructions carefully before starting the product.


Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your Local Authority or retailer for recycling advice.

SPECIFICATIONS

Input	240 V ∿ 50 Hz
Wattage	240 W
No-load speed	14,000 min^{-1}
Orbital diameter	1.6 mm
Weight	1.56 kg

APPLICATIONS

Use only for the purposes listed below:

- sanding on wood surfaces
- removing rust from and sanding steel surfaces
- sanding plastics

FEATURES

Your sander is suitable for sanding with coarse, medium, and fine grit sandpaper. It will produce a fine scratch-free finish when used to sand with the grain on wood surfaces. It has been designed so that flush corner sanding on three sides of the sander is possible.

Your sander has a comfortable palm grip handle that provides maximum one-hand comfort, and reduces operator fatigue during continuous sanding operations.

Your sander also has a built-in dust collection feature that collects dust through punched holes in the sandpaper and cushion.

Before attempting to use your sander, familiarize yourself with all operating features and safety requirements.

SWITCH

This tool is equipped with a simple switch control. To turn the sander on, slide the switch to the left. Slide the switch to the right to turn the sander off.

⚠ WARNING

Do not allow familiarity with your sander to make you careless. Remember that a careless fraction of a second is sufficient to inflict severe injury.

OPERATION

⚠ WARNING

Your sander should never be connected to power supply when you are assembling parts, making adjustments, assembling or replacing sandpaper, cleaning, or when not in use. Disconnecting sander will prevent accidental starting that could cause serious personal injury.

INSTALLING SANDPAPER

Inspect the sandpaper before installing. **Do not use if it is broken or defective.**

INSTALLING ADHESIVE (HOOK AND LOOP) SANDPAPER

See Figure 5.

1. Unplug the sander.

⚠ WARNING

Failure to unplug the tool could result in accidental starting causing possible serious injury.

2. Align holes in hook and loop type sanding disc with holes in pad, then carefully press the fuzzy side of sanding disc against the pad as tightly as possible.

NOTE: Hook and loop type sanding discs can be reused for the life of the sanding abrasive. It is recommended that you keep the sanding disc backing pad clean to provide for best adhesion. Clean occasionally by brushing lightly with a small brush.

INSTALLING NON-ADHESIVE SANDPAPER

1. Unplug the sander.
2. Release the paper clamp. Remove used sandpaper, if any.
3. Insert the new sandpaper under the paper clamp.
4. Clamp the sandpaper in place.

PAPER PUNCH

See Figure 6.

A paper punch template has been supplied with your sander for aligning and punching holes in sandpaper. The punched holes must align with the holes in the sander cushion.

1. Install sandpaper on your sander.
2. Align sander cushion over the paper punch.
3. Push down on the sander.

SANDPAPER SELECTION

Selecting the correct size, grit and type of sand paper is an extremely important step in achieving a high quality sanded finish. Aluminum oxide, silicon carbide, and other synthetic abrasives are best for power sanding. Natural abrasives, such as flint and garnet are too soft for economical use in power sanding.

In general, coarse grit will remove the most material and finer grit will produce the best finish in all sanding operations. The condition of the surface to be sanded will determine which grit will do the job. If the surface is rough, start with a coarse grit and sand until the surface is uniform. Medium grit may then be used to remove scratches left by the coarser grit and finer grit used for finishing of the surface. Always continue sanding with each grit until surface is uniform.

⚠ WARNING

Do not use sander without sandpaper. Doing so will damage the cushion.

⚠ CAUTION

Be careful not to let your hand completely cover the air vents.

SANDING

See Figure 1.

⚠ WARNING

Unsecured work could be thrown towards the operator causing injury.

Hold your sander in front and away from you, keeping it clear of the workpiece. Start your sander by pressing the switch button to "on" position and letting the motor build to its maximum speed. Gradually lower your sander on the work with a slight forward movement. Move it slowly using forward and backward strokes.

Do not force. The weight of the unit supplies adequate pressure, so let the sanding disc and sander do the work. Applying additional pressure only slows the motor, rapidly wears sanding disc and greatly reduces sander speed. Excessive pressure will overload the motor causing possible damage from motor overheating and can result in inferior work. Any finish or resin on wood may soften from the frictional heat.

Do not allow sanding on one spot too long as the sander's rapid action may remove too much material, making the surface uneven.

Extended periods of sanding may tend to overheat the motor. If this occurs, turn sander off and wait until sanding disc comes to a complete stop, unplug the sander, then remove it from workpiece. Allow the tool to cool down.

ORBITAL MOTION

See Figure 2.

Orbital motion is ideal for fast cutting action when removing old finishes, smoothing rough wood, cutting stock down to required dimensions or for finishing surfaces to be painted. The sandpaper moves in tiny circles at a very high speed, allowing the sander to move easily.

⚠ WARNING

Collected sanding dust from sanding surface coatings such as polyurethanes, linseed oil, etc., can self-ignite in your sander dust collection box or elsewhere and cause fire. To reduce the risk of fire always empty your dust collection box frequently (10-15 minutes) while sanding and never store or leave a sander without totally emptying its dust collection box. Also follow the recommendations of the coatings' manufacturers.

USING THE DUST BAG ASSEMBLY

The dust bag assembly provides a dust collection system for the sander. Sanding dust is drawn up through the holes of the sanding disc and collected in the dust bag during sanding.

TO ATTACH THE DUST BAG ASSEMBLY

See Figure 3.

Follow these directions to attach the dust bag assembly.

1. Unplug the sander.

⚠ WARNING

Failure to unplug the tool could result in accidental starting causing possible serious injury.

2. Using a slight twisting motion, firmly slide the dust collection bag assembly in the blower exhaust on the sander.

EMPTYING THE DUST COLLECTION BAG ASSEMBLY

See Figure 4.

For more efficient operation, empty the dust collection box when it is no more than half full. This will permit the air to flow through the dust collection box better. Always empty and clean the dust collection box thoroughly upon completion of a sanding operation and before placing the sander in storage.

TO EMPTY DUST BAG

1. Unplug the sander.

⚠ WARNING

Failure to unplug the tool could result in accidental starting causing possible serious injury.

2. Remove the dust bag assembly from the sander.
3. Remove the dust bag from the frame.
4. Shake out the dust.
5. Replace the dust bag on the frame.
6. Replace the dust bag assembly on the sander.

LIVE TOOL INDICATOR

This tool features a live tool indicator which illuminates as soon as the tool is connected to the supply. This warns the user that the tool is connected and will operate when the switch is pressed.

MAINTENANCE

⚠ WARNING

The tool should never be connected to a power supply when you are assembling parts, making adjustments, cleaning, performing maintenance, or when the tool is not in use. Disconnecting the tool will prevent accidental starting that could cause serious injury.

⚠ WARNING

When servicing, use only identical replacement parts. Use of any other parts may create a hazard or cause product damage.

GENERAL

Avoid using solvents when cleaning plastic parts. Most plastics are susceptible to various types of commercial solvents and may be damaged by their use. Use clean cloths to remove dirt, carbon dust, etc.

⚠ WARNING

Do not at any time let brake fluids, gasoline, petroleum-based products, penetrating oils, etc., come in contact with plastic parts. They contain chemicals that can damage, weaken or destroy plastic.

Electric tools used on fiberglass material, wallboard, spackling compounds, or plaster are subject to accelerated wear and possible premature failure because the fiberglass chips and grindings are highly abrasive to bearings, brushes, commutators, etc. Consequently, we do not recommend using the tool for extended work on these types of materials. However, if you do work with any of these materials, it is extremely important to clean the tool using compressed air.

⚠ WARNING

Always wear safety goggles or safety glasses with side shields during power tool operation or when blowing dust. If operation is dusty, also wear a dust mask.

LUBRICATION

All of the bearings in the tool are lubricated with a sufficient amount of high grade lubricant for the life of the unit under normal operating conditions. Therefore, no further lubrication is required.

CLEANING THE SANDING SHEETS

The sanding sheets that came with your sander are made to be re-used. Therefore, it is important that they be cleaned periodically to remove sanding residue and foreign material that can accumulate over time.

One of the ways to clean sanding sheets is to rub the sheets with a hard rubber block. You can also use the clean rubber sole of a shoe.

⚠ WARNING

Always remove scrubbing or sanding pad from sander before cleaning. Failure to do so could cause serious personal injury.

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