

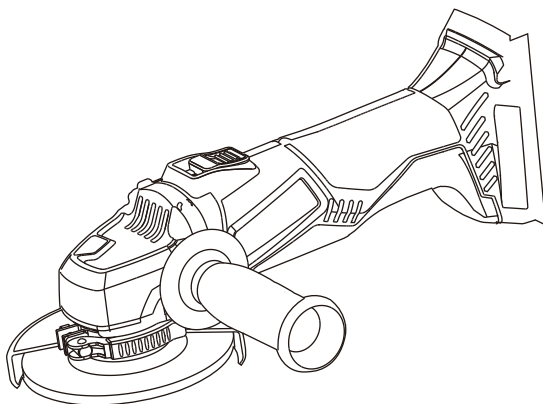
greenworks

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EN

ANGLE GRINDER

OPERATOR MANUAL



E8038

3200007

Greenworks Australia
A Division Jak Max P/L
380 Foley's Road Derrimut
Victoria, Australia 3026

www.greenworksaustralia.com

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1 DESCRIPTION

1.1 PURPOSE

The machine is used to grind metals and sand metal surfaces.

1.2 OVERVIEW

Figure 1.

- | | |
|-----------------------|---------------------------|
| 1 On/Off switch | 8 Grinding wheel |
| 2 Spindle lock button | 9 Clamp nut |
| 3 Direction arrow | 10 Guard clasp |
| 4 Protection guard | 11 Auxiliary handle |
| 5 Locking screw | 12 Battery pack |
| 6 Grinder spindle | 13 Battery release button |
| 7 Disc Flange | 14 Wrench |

2 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.

2.1 WORK AREA SAFETY

- **Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
- **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.
- **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

2.2 ELECTRICAL SAFETY

- **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.
- **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.
- **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- **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 and moving parts. Damaged or entangled cords increase the risk of electric shock.
- **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.
- **If operating a power tool in a damp location is unavoidable, use a RESIDUAL CURRENT DEVICE (RCD) protected supply.** Use of an RCD reduces the risk of electric shock.

2.3 PERSONAL SAFETY

- **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 lapse of attention while operating power tools may result in serious personal injury.
- **Use personal protection.** Always wear eye protection. Protective products such as dust mask, non-skid safety shoes, hard hat or hearing protection used appropriately will reduce personal injuries.
- **Prevent unintentional starting.** Ensure the switch is in the off position before connecting to power source and/or battery pack and when 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.
- **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.
- **Do not over-reach.** Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.
- **Dress properly.** Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry or long hair can be caught in moving parts.
- **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.

2.4 POWER TOOL USE AND CARE

- **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.
- **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.
- **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.

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

2.5 BATTERY TOOL USE AND CARE

- **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.*
- **Use power tools only with specifically designated battery packs.** *Use of any other battery packs may create a risk of injury and fire.*
- **When 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 fire.*
- **Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with plenty of soap and water. If liquid contacts eyes, immediately seek medical help. Liquid ejected from the battery may cause irritation or burns.**

2.6 SERVICE

- **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.*

3 SAFETY WARNINGS FOR ANGLE GRINDER

- **This power tool is intended to function as a grinder. 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.*
- **Operations such as polishing, sanding, 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.

- **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.*
- **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.*
- **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.*
- **Threaded mounting of accessories must match the grinder spindle thread.** *For accessories mounted by flanges, the arbour hole of the accessory must fit the locating diameter of the flange. Accessories that do not match the mounting hardware of the power tool will run out of balance, vibrate excessively and may cause loss of control.*
- **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.*
- **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 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.*
- **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.*
- **Hold the power tool by insulated gripping surfaces only, when performing an operation where the cutting accessory may contact hidden wiring.** *Contact with a "live" will also make exposed metal parts of the power tool "live" and could give the operator an electric shock.*
- **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.*
- **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.

- **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.*
- **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.*
- **Do not operate the power tool near flammable materials.** *Sparks could ignite these materials.*
- **Do not use accessories that require liquid coolants.** *Using water or other liquid coolants may result in electrocution or shock.*

3.1 KICKBACK AND RELATED WARNINGS

Kickback is a sudden reaction to a pinched or snagged rotating wheel, backing pad, brush 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.

- **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.*
- **Never place your hand near the rotating accessory.** *Accessory may kickback over your hand.*
- **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.*
- **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.*
- **Do not attach a saw chain woodcarving blade or toothed saw blade.** *Such blades create frequent kickback and loss of control.*

3.2 ADDITIONAL SAFETY WARNINGS

- **Use only wheel types that are recommended for your power tool and the specific guard designed for the selected wheel.** *Wheels for which the power tool was not designed cannot be adequately guarded and are unsafe.*
- **The guard must be securely attached to the power tool and positioned for maximum safety, so the least amount of wheel is exposed towards the operator.** *The guard helps to protect the operator from broken wheel fragments, accidental contact with wheel and sparks that could ignite clothing.*
- **Wheels must be used only for recommended applications. For example: do not grind with the side of cut-off wheel.** *Abrasive cut-off wheels are intended for peripheral grinding, side forces applied to these wheels may cause them to shatter.*
- **Always use undamaged wheel flanges that are of correct size and shape for your selected wheel.** *Proper wheel flanges support the wheel thus reducing the possibility of wheel breakage. Flanges for cut-off wheels may be different from grinding wheel flanges.*
- **Do not use worn down wheels from larger power tools.** *Wheel intended for larger power tool is not suitable for the higher speed of a smaller tool and may burst.*

4 INSTALLATION

4.1 UNPACK THE MACHINE

⚠ WARNING

Make sure that you correctly assemble the machine before use.

⚠ WARNING

- If the parts are damaged, do not use the machine.
- If you do not have all the parts, do not operate the machine.
- If the parts are damaged or missing, speak to the service center.

1. Open the package.
2. Read the documentation in the box.
3. Remove all the unassembled parts from the box.
4. Remove the machine from the box.
5. Discard the box and package in compliance with local regulations.

4.2 INSTALL THE BATTERY PACK

Figure 2.

▲ WARNING

- If the battery pack or charger is damaged, replace the battery pack or the charger.
- Stop the machine and wait until the motor stops before you install or remove the battery pack.
- Read, know, and do the instructions in the battery and charger manual.

1. Align the lift ribs on the battery pack with the grooves in the battery compartment.
2. Push the battery pack into the battery compartment until the battery pack locks into place.
3. When you hear a click, the battery pack is installed.

4.3 REMOVE THE BATTERY PACK

Figure 3.

1. Push and hold the battery release button.
2. Remove the battery pack from the machine.

4.4 INSTALL THE GRINDING WHEEL

Figure 4.

▲ CAUTION

Do not attach a wood cutting blade or carving blade to the machine. It is used to grind and sand materials. Use for other intentions is not recommended and makes a risk.

▲ WARNING

Examine a new grinding wheel before you install it.

- Use a wooden hammer to tap around the wheel.
- Listen to the result sounds. Fissures or cracks result in a different sound.

Do not use a wheel with fissures or cracks. When you install a new grinding wheel, do a no-load revolution test of 1 minute with the grinding wheel at a safe direction.

1. Push the spindle lock button.
2. Engage the flats on the bottom of the disc flange with the flats on the spindle.
3. Put the grinding wheel on the spindle.
4. Turn the wheel clockwise until the spindle locks in position.
5. Install the clamp nut on the spindle with the flat side of the nut up.
6. Install the raised, small diameter piece of the clamp nut into the hole in the wheel and finger tighten.
7. Tighten the clamp nut.

i NOTE

To prevent damage to the spindle or spindle lock, let motor to come to a complete stop before you engage spindle lock.

▲ WARNING

Install a grinding wheel with the center against the disc flange. Failure to do so can cause the grinding wheel to break. This can also cause injury because the loose particles break off and drop down from the grinder.

4.5 INSTALL THE AUXILIARY HANDLE

Figure 5.

▲ WARNING

The auxiliary handle must be used to help prevent loss of control and possible injury.

The auxiliary handle can be installed on the left or right side of the machine.

1. Install the auxiliary handle into the necessary position.
2. Turn the auxiliary handle clockwise to tighten.

5 OPERATION**▲ WARNING**

Always wear eye protection.

▲ WARNING

Do not use any attachments or accessories not recommended by the manufacturer of this product.

5.1 START THE MACHINE

Figure 6.

1. To start the machine, push the On/Off switch forward.
2. To lock the On/Off switch, push the On/Off switch down at the front until it latches.

5.2 STOP THE MACHINE

Figure 7.

1. To stop the machine, release the On/Off switch or, if it is locked, briefly push the rear of the On/Off switch and then release it.
2. To keep energy, only switch the machine on when you use it.

▲ WARNING

Examine the machine before you use. The machine must be installed correctly and can move freely. Do a test to operate for 1 minute with no load. Do not use damaged, out of centre or vibration machine. Damaged machine can break and cause injuries

5.3 ADJUST THE GUARD

Figure 8.

▲ WARNING

Adjust the guard on the machine correctly refer to which side you install the handle.

▲ WARNING

Let the guard in front of the machine. If not, sparks and loose pieces of the grinding wheel can cause injury to the operator. Put the guard in the correct location.

1. Remove the battery pack.
2. Pull the guard clasp to unlock the guard.
3. Turn the guard to its correct position.
4. Push the guard clasp in to lock the guard.

i NOTE

Make sure that you install the ridge on the guard in the groove of the bearing cap.

5.4 REPLACE THE GUARD**▲ WARNING**

Do not change or loosen guard screw. Failure to follow this warning can make the guard to become loose during operation and cause injury.

After extended use, you must replace the guard. If you fall the machine and cause damage the guard. It is also necessary for you to replace the guard.

▲ WARNING

To prevent loss of control and possible injury, operate the machine with two hands and keep one hand on the auxiliary handle.

- Remove the battery pack from the machine.
- Push the spindle lock.
- Use a wrench to loosen and remove clamp nut.
- Remove grinding wheel and disc flange.
- Pull the guard clasp to unlock the guard.
- Remove the guard from the groove in the housing.
- Put the new guard on the shoulder of the bearing cap.
- Adjust the guard to the correct position.

i NOTE

Make sure you install the ridge on the guard in the groove on the bearing cap.

- Install disc flange, grinding wheel, and clamp nut.
- Tighten the clamp nut.

5.5 OPERATE THE MACHINE

Figure 9.

Use correct grinding wheels that are recommended for the material. Make sure that the minimum speed of a accessory wheel is 6,500 r/min. or more. The grinding wheel is correct for grinding welds, preparing surfaces to be welded, grinding structural steel, and grinding stainless steel.

▲ CAUTION

Do not use the machine without the guard. Use the machine without guard will cause injury to the operator.

i NOTE

Make sure all work in a vise or clamp to a workbench.

1. Use two hands to hold the machine in front and away from you and the workpieces.
2. Start the grinder and let the engine and grinding wheel increase to full speed.
3. Lower the grinder until the grinding wheel touches the workpiece.
4. Keep the machine tilted at an angle from 5° to 15° and move at a stable speed.
5. Use sufficient pressure to keep the machine stable.
6. Lift the machine away from the workpiece before you stop the machine.

▲ WARNING

To prevent loss of control and injury, operate the machine with two hands and keep one hand on the auxiliary handle.

i NOTE

If you put the machine in one point too long or hold the machine at too sharp an angle, it will make grooves in the workpiece.

i NOTE

Heavy pressure decreases the speed and put a strain on the engine. The weight of the machine is sufficient for most grinding works. Use light pressure when you grind jagged edges or loose bolts where there is the possible to stop the machine on the metal edge.

6 MAINTENANCE**▲ WARNING**

Remove the battery pack from the machine before maintenance.

▲ WARNING

Do not use strong solvents or detergents on the plastic housing or components.

6.1 GENERAL MAINTENANCE

- Before each use, examine the machine for damaged, missing, or loose parts such as screws, nuts, bolts and caps.
- Clean the machine with a dry cloth. Do not use solvents.

▲ WARNING

Do not let brake fluids, gasoline, petroleum-based materials touch the plastic parts. Chemicals can cause damage to the plastic, and make the plastic unserviceable.

▲ CAUTION

Use only approved replacement parts.

7 TECHNICAL DATA

Rated Voltage	24 V
No Load Speed	7000 min ⁻¹
Shaft	14 mm
Disc diameter	115 mm
Weight (without battery)	1.6 kg
Battery	G24B2/G24B4 and other BAG series
Charger	2913907 and other CAG series
Measured sound pressure level	81 dB(A), K _{pA} = 3 dB(A)
Measured sound power level	92 dB(A), K _{WA} = 3 dB(A)
Vibration	9.079 m/s ² , K = 1.5 m/s ²

8 WARRANTY

(The full warranty terms and conditions can be found on Greenworks webpage)

The Greenworks warranty is 4 years on the product, and 2 years on batteries (consumer/private usage) from the date of purchase. This warranty covers manufacturing faults. A faulty product under warranty might be either repaired or replaced. A unit that has been misused or used in other ways than described in the owner's manual might be rejected for warranty. Normal wear, and wear parts are not considered as warranty. The original manufacturer warranty is not affected by any additional warranty offered by a dealer or retailer.

A faulty product must be returned to the point of purchase in order to claim for warranty, together with the proof of purchase (receipt).