

LITTLE BEAVER

20V BRUSHLESS ANGLE GRINDER MODEL: DUECAG323



SAVE THIS MANUAL

You will need this manual for safety instructions, operating procedures and warranty.
Put it and the original sales receipt in a safe dry place for future reference.

IMPORTANT SAFETY INFORMATION

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.

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.

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 or 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 an earth leakage circuit breaker. Use of an earth leakage circuit breaker reduces the risk of electric shock.

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

IMPORTANT SAFETY INFORMATION

or medication. A moment of inattention while operating power tools may result in serious personal injury.

- 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.
- 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 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 overreach. 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.
- Use ear protectors. Exposure to noise can cause hearing loss.

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. 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,

IMPORTANT SAFETY INFORMATION

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.

Battery tool use and care

- Ensure the switch is in the off position before inserting battery pack. Inserting the battery pack into power tools that have the switch on invites accidents.
- 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, keys, nails, screws, or other 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 water. If liquid contacts eyes, additionally seek medical help. Liquid ejected from the battery may cause irritation or burns.

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

INSTRUCTIONS FOR SAFE HANDLING

- Make sure that the tool is only connected to the voltage marked on the name plate.
- Never use the tool if its cover or any bolts are missing. If the cover or bolts have been removed, replace them prior to use. Maintain all parts in good working order.
- Always secure the tool when working in elevated positions.
- Never touch the blade, drill bit, grinding wheel or other moving parts during use.
- Never start the tool when its rotating component is in contact with the work piece.
- Never lay the tool down before its moving parts have come to a complete stop.
- **ACCESSORIES** : The use of accessories or attachments other than those recommended in this manual might present a hazard.

REPLACEMENT PARTS: When servicing use only identical replacement parts.

CORDLESS GRINDER SAFETY PRECAUTIONS

- Always use proper guard with grinding wheel. A guard protects operator from broken wheel fragments.
- Accessories must be rated for at least the speed recommended on the tool warning label. Wheels and other accessories running over rated speed can fly apart and cause injury.
- Hold tool by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring or its own cord.
- Make sure the grinding wheel is not contacting the work piece before the switch is turned on.
- Grinding wheel and guard must be securely attached as described in this operating manual before connecting the angle grinder to power source.
- Grinding wheel must be stored in a dry place.
- Always hold the grinder firmly with two hands while working and at all times when it is running.
- Use only quality certified grinding wheels.
- Keep hands away from rotating parts.
- Be careful not to damage the spindle, outer flange and inner flange. Damage to these parts could result in wheel breakage

CORDLESS GRINDER SAFETY PRECAUTIONS

- When starting the tool (install with a new or replacement wheel), hold the tool in a well protected area and let it run for one minute to check if the wheel is good or not. Never start the tool while the operator is standing in line with the wheel.

DISPOSAL OF THE EXHAUSTED BATTERY

Li-ion batteries must be recycled.

Take the battery to the shop from which it was purchased as soon as the post-charging battery life becomes too short for practical use.

Do not discard the exhausted battery.

SPECIFICATIONS

Voltage: 20V Max

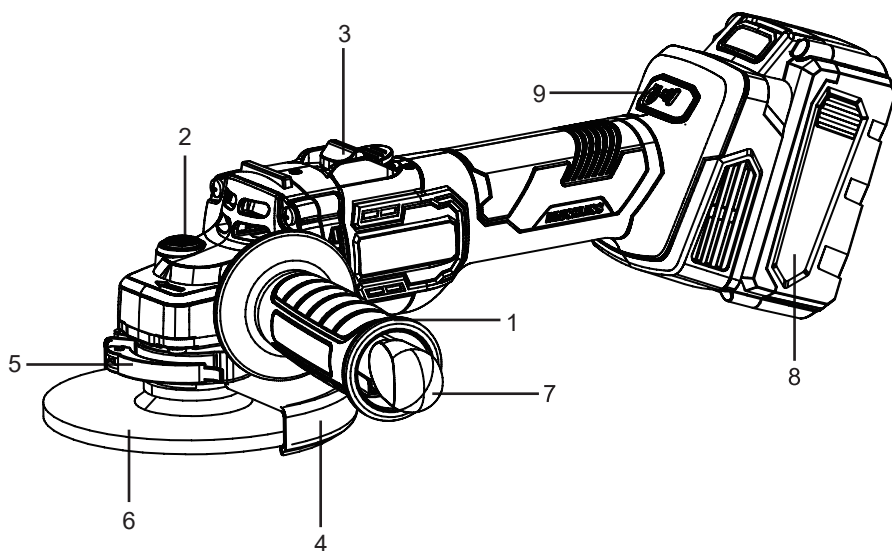
No load speed: 3000/4000/5000/6000/7000/8500RPM, 6-speed setting

Disc diameter: 4-1/2"

Spindle size: 5/8"

FUNCTION

1. Auxiliary handle
2. Spindle lock
3. Slide switch
4. Wheel guard
5. Wheel guard clamp handle
6. Grinding wheel
7. Wrench
8. Battery pack
9. Speed control button



OPERATING PROCEDURES

ASSEMBLY

WARNING! Before changing accessories or doing any other operation on the tool, ensure tool is unplugged from the power source.

When installing a grinding wheel or cutting disc, wear protective gloves.

Danger of injury when touching the wheel and disc.

SLIDE ON-OFF SWITCH WITH LOCK (Fig. 1)

- The switch can be locked in the “ON” position for a continuous grinding operations.
- To lock the switch “ON”, slide the switch button forward by applying pressure ONLY at the REAR portion of the button, then press “IN” the FRONT portion.
- To unlock the switch and turn the tool “OFF”, simply press and release the REAR portion of the button.

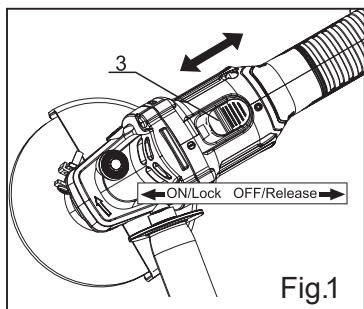


Fig.1

WARNING! Do not turn the switch “ON” and “OFF” while the tool is under load. This will greatly decrease the switch life.

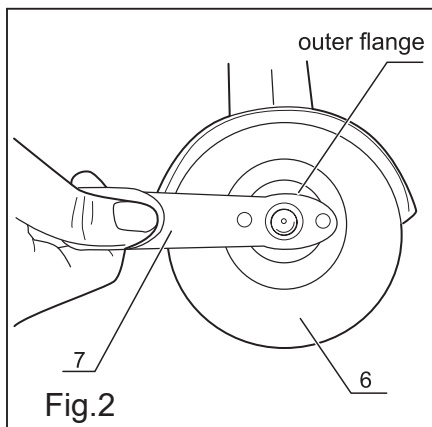
INSTALLATION OF GRINDING WHEEL (Fig. 2)

WARNING: Use only grinding wheel having a maximum operating speed at least as high as peripheral speed 4,800RPM marked on them.

- Depress and hold down the spindle lock (2). To prevent damage to spindle or spindle lock, always allow motor to come to a complete stop before engaging spindle lock.
- Remove the outer flange with wrench (7) turning in anti-clockwise direction. Do not remove the inner flange.
- Make sure the slot on the inner flange is engaged with the square neck of the spindle.
- Place the grinding wheel (6) over the spindle with the depressed center against the inner flange.
- Depress and hold down the spindle lock again, mount the outer flange and securely tighten it with spanner provided clockwise. Do not over tighten it.

OPERATING PROCEDURES

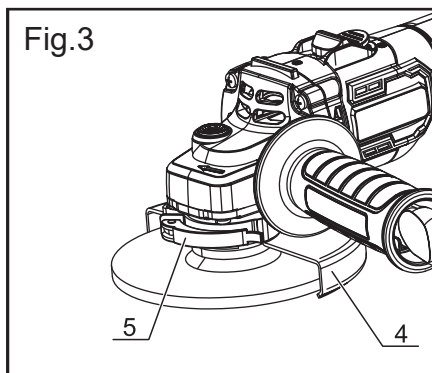
WARNING: CHECK CAREFULLY WHETHER OR NOT THERE ARE CRACKS IN THE WHEEL. REPLACE A CRACKED WHEEL IMMEDIATELY.



ADJUSTING WHEEL GUARD (Fig. 3)

WARNING: Wheel guard (4) must be attached when using this tool. Always keep wheel guard between you and your work while grinding or cutting.

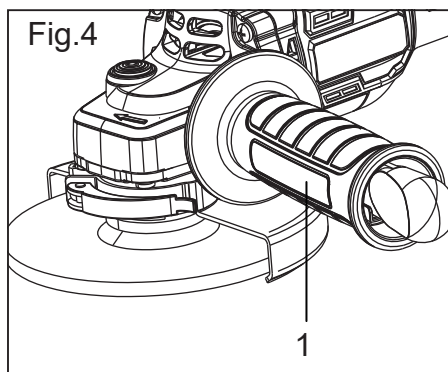
- Pull the clamp handle(5) open to loosen the wheel guard(4).
- Slide the collar of the wheel guard over the rim of the gear housing.
- Rotate the wheel guard as needed to shield you during the planned work.
- Once in place, push the clamp handle to close and secure the wheel guard.
- Check the wheel guard to ensure it is firmly in place. Adjust if necessary before proceeding.



OPERATING PROCEDURES

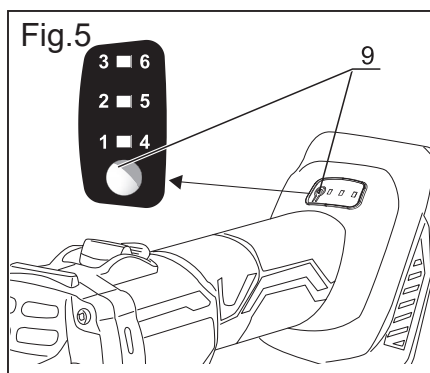
AUXILIARY HANDLE (Fig. 4)

- The tool has two screwed holes on left and right side of the gear housing. Position of the auxiliary handle (1) can be selected depending on specific working condition and their own habit.



SPEED SELECTOR (Fig. 5)

- This tool is equipped with 6-speed controls which can be found in the bottom of the tool.
- Press the speed control button (9) to select different speed for different purposes.
- Press speed control button (9) to select desired speed.
- When the speed is 3,000(N0.1) / 4,000 (NO.2) / 5,000 (NO.3) RPM, the light is green.
- When the speed is 6,000(N0.4) 7,000 (NO.5)/ 8,500 (NO.6) RPM, the light is red.



OPERATING PROCEDURES

How to charge the battery pack ?

1. Connect the power supply, green light is ON.
2. Plug in the battery, charging is beginning, green light is OFF and red light is ON.
3. Fully charge finished, red light is OFF, green light is ON and keep lighting.

NOTICE: Please push the battery pack forward until you hear a click sound.

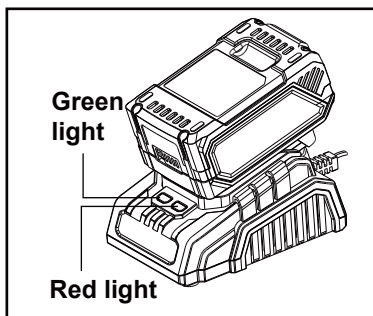
The click sound means the battery is properly inserted into the charger.

■ After the charging is completed, remove the battery pack from the charging stand immediately. When charging more than one battery pack, allow 15 minutes between charges.

■ After many charge/discharge cycles, your battery may lose its ability to hold a charge.

If so, please replace it. Dispose of batteries at an appropriate waste disposal facility.

Do not throw batteries away in common trash cans.



Caution

- Fully charge battery before first use.
- Avoid short periods of charging. Only charge battery pack when it completely runs out.
- In order to extend the battery life, fully charge it after each use and ensure that it is charged every three months; avoid storing batteries in cold places as low temperatures may cause them to fail.

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OPERATING

KEEP WHEEL GUARD IN PLACE

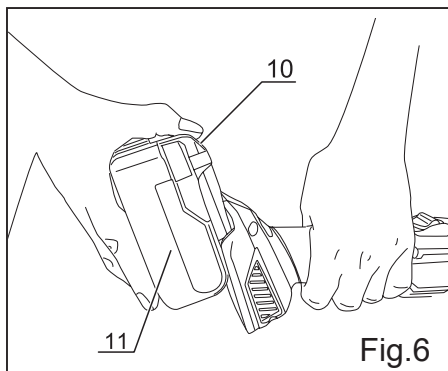
NEVER COVER THE AIR VENTS SINCE THEY MUST ALWAYS BE OPEN FOR PROPER MOTOR COOLING.

- Before starting the grinder, put on safety glasses and make sure that the grinding wheel, guard and the tool are in good condition and correctly fitted.
- Always hold the tool firmly with one hand on the rear handle and the other on the side handle.
- Turn the angle grinder on and then apply the grinding wheel to the work piece.
- In general, keep the edge of the wheel at an angle of about 30° for roughing and about 15° for finishing.
- Move the grinder back and forth or up and down over the work area.
- Use just enough pressure to keep the grinder from chattering or bouncing.
- Avoid overloading the tool for a long time, heavy pressure will decrease its speed and put a strain on the motor.
- Lift the grinder away from the workpiece before turning your grinder off.

OPERATING PROCEDURES

INSTALLING AND REMOVING BATTERY PACK(Fig. 6)

- To install battery pack (11), align the body with the groove in the battery pack and push in the direction of the arrow until the battery pack is secured on the tool.
- To remove the battery pack from the tool, push the battery clip (10) on and remove the battery pack in the direction of the arrow.
- Always remove battery pack from your tool when you are assembling parts, making adjustments, cleaning, or when not in use. Removing battery pack will prevent accidental starting that could cause serious personal injury.



MAINTENANCE

CAUTION: Always be sure that the tool is switched off and the battery cartridge is removed before attempting to perform inspection or maintenance.

NOTICE: Never use gasoline, benzine, thinner, alcohol or the like. Discoloration, deformation or cracks may result.

GENERAL MAINTENANCE

- Using compressed air may be the most effective cleaning method. Always wear safety goggles when cleaning tools with compressed air. Periodic maintenance allows for long life and trouble-free operation. A cleaning, lubrication and maintenance schedule should be maintained.
- Avoid dropping or otherwise causing impact to the tool and keep it away from oil and grease.
- Inspect the screws periodically. If the screws loosen, tighten them immediately, to avoid serious accident.
- Clean all parts of the tool; clean dust and debris from vents. Keep the tool clean, dry and free of oil or grease.
- Avoid using solvents when cleaning plastic parts. Most plastics are susceptible to damage from various types of commercial solvents and may be damaged by their use. Use clean cloths and mild soap to remove dirt, dust, etc.

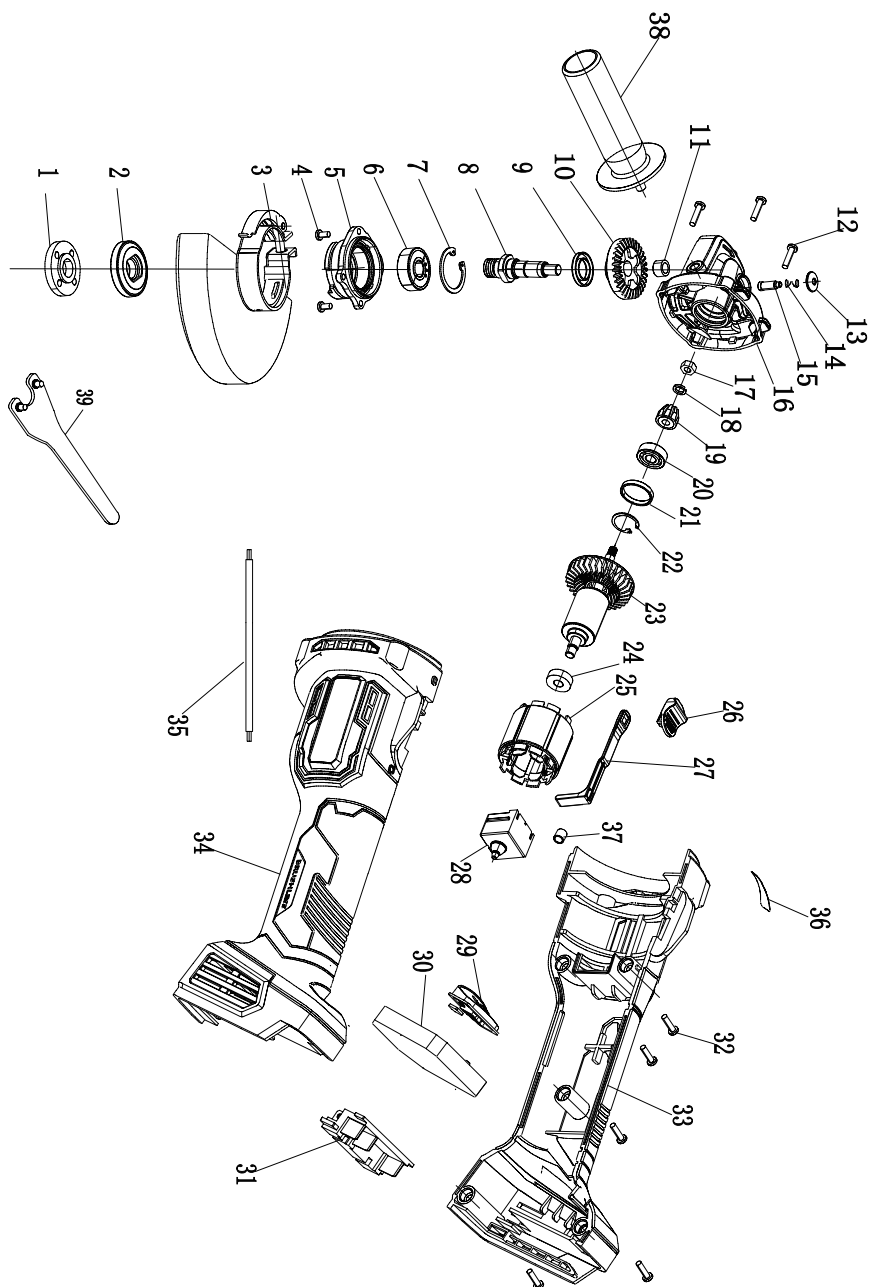
LUBRICATION

- All of the bearings in this product 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.
- **STORAGE AND HANDLING OF GRINDING WHEELS**
- When not in use, grinding wheels should be stored carefully in a rack or box to protect them from chipping or breakage. All grinding wheels must be handled carefully to prevent dropping and bumping.

PARTS LIST

No.	PART NAME	QTY	No.	PART NAME	QTY
1	Outer Flange	1	21	Seal Ring	1
2	Inner Flange	1	22	Retaining Ring	1
3	Guard	1	23	Armature	1
4	M4*14 Screw	4	24	607 Bearing	1
5	Gear Box Cover	1	25	Stator	1
6	6201 Bearing	1	26	Switch Button	1
7	Retaining Ring	1	27	Switch Lever	1
8	Pivot	1	28	Switch	1
9	Washer	1	29	Function Key Panel	1
10	Gear	1	30	Controller	1
11	Needle Bearing	1	31	Socket	1
12	St4*20 Screw	4	32	St4*18 Screw	5
13	Lock Button	1	33	Right Motor House	1
14	Lock Button Spring	1	34	Left Motor House	1
15	Lock Pin	1	35	Wire	1
16	Gear Box	1	36	Speed Label	1
17	M6 Nut	1	37	Rubber Column	1
18	Spring Washer	1	38	M8 Side Handle	1
19	Pinion	1	39	Spanner	1
20	608 Bearing	1			

SCHEMATIC DRAWING



LITTLE BEAVER