



dartek

Product instruction manual



PAG 5803
PAG 05-100
ANGLE GRINDER



Safety Instruction

General Safety Warnings for Common Electric Tools

⚠ Warning! Read all warnings and instructions.

Failure to follow the below warnings and instructions may result in electric shock, fire or serious injury.

Keep all warnings and instructions for future reference.

The term "electric tool" refers to utility power-driven (wired) electric tools or battery-driven (wireless) electric tools in all the following warnings.

a) Workplace Safety

1. Keep the workplace clean and bright. A disordered and dark workplace can cause accidents.
2. Do not operate electric tools in an explosive environment with flammable liquid, gas or dust. Sparks generated from electric tools can ignite dust or gas.
3. Keep children and bystanders away and operate electric tools. The operator will lose control of the tool if he is distracted.

b) Electrical Safety

1. The plug of electric tool must match with the socket. Never modify the plug in any way. Do not use any conversion plugs for electric tools that need to be grounded. Unmodified plugs and matching sockets will reduce the risk of electric shock.
2. Avoid human contact with grounded surfaces such as pipes, heat sinks and refrigerators. If your body is grounded, it will increase the risk of electric shock.
3. Do not expose electric tools to rain or humid environments. Water entering the electric tool will increase the risk of electric shock.
4. Do not abuse wires. Never use wires to carry, pull the electric tool or pull its plug. Keep wires away from heat source, oil, sharp edges or moving parts. Damaged or entangled cords will increase the risk of electric shock.
5. When using electric tools outdoors, use an external cord suitable for outdoor use. The cord suitable for outdoor use will reduce the risk of electric shock.
6. If it is unavoidable to operate electric tools in a humid environment, a residual current operated protective device (RCD) should be used. Using RCD will reduce the risk of electric shock.

Note: the term "Residual Current Operated Protective Device (RCD)" can be replaced by the term "Ground Fault Circuit Interrupter (GFCI)" and "Earth Leakage Circuit Breaker (ELCB)".

c) Personal Safety

1. Stay alert, pay attention to what you are doing and stay awake when operating electric tools. Do not operate electric tools when you are tired, or when you are responding to drugs, alcohol, or treatment. Momentary negligence when operating electric tools can cause serious personal injury.
2. Use personal protective equipment. Always wear goggles. Safety devices, such as the use of dust masks, non-skid safety shoes, safety helmets, hearing protection and other devices under appropriate conditions can reduce personal injury.

3. Prevent accidental start. Ensure that the switch is in the off position when connecting the power supply and/or battery box, picking up or carrying tools. Putting a finger on a switch that has been turned on or inserting a plug while the switch is on may cause danger.
4. Before turning on the electric tool, remove all adjustment keys or wrenches. Wrenches or keys left on rotating parts of electric tools can cause personal injury.
5. Do not stretch your hands too long. Always pay attention to your footing and body balance. In this way, the electric tool can be well controlled in unexpected situations.
6. Dress appropriately. Do not wear loose clothes or accessories. Keep clothing, gloves and hair away from moving parts. Loose clothes, accessories or long hair may be caught in moving parts.
7. If devices for connecting with dust removal and dust collection equipment are provided, make sure they are well connected and used properly. Using these devices can reduce the danger caused by dust.

d) Use and Precautions of Electric Tools

1. Do not abuse electric tools, use appropriate electric tools according to the purpose. Choosing a properly designed electric tool will make your work more efficient and safer.
2. If the switch cannot turn on or turn off the power to the tool, the electric tool cannot be used. Electric tools that cannot be controlled by switches are dangerous and must be repaired.
3. Before making any adjustments, changing accessories or storing electric tools, the plug must be unplugged from the power supply and/or the battery box must be disconnected from the tool. This protective measure will reduce the risk of accidental starting of the tool.
4. Store unused electric tools out of the reach of children, and do not allow people who are not familiar with electric tools or those who do not understand these instructions to operate electric tools. Electric tools are dangerous in the hands of untrained users.
5. Maintain the electric tools. Check whether the moving parts are adjusted in place or stuck, check the damage of the parts and other conditions that affect the operation of electric tool. If damaged, the electric tool should be repaired before use. Many accidents are caused by poorly maintained electric tools.
6. Keep the cutting tools sharp and clean. Well-maintained tools with sharp cutting edges are not easy to jam and are easy to control.
7. Use electric tools ~ accessories and tool bits, etc., in accordance with the instruction manual, considering the working conditions and the work to be performed. Using electric tools for operations that are inconsistent with their purpose may cause danger.

e) Repair

Send your electric tools to professional maintenance center and use the same spare parts for repairs. This will ensure the safety of the electric tools being repaired.

Supplementary Safety Rules for Angle Grinders

I. General Safety Warnings for Grinders:

1. This electric tool is used for realizing the sanding function. Read all safety warnings, instructions, illustrations and regulations provided with this electric tool. Failure to understand all the below instructions will result in electric shock, fire and/or serious injury.
2. It is not recommended to use this electric tool for operations such as sanding, brushing, polishing or cutting. It may be dangerous and cause personal injury if you do not operate the electric tool by following the specified functions.
3. Accessory selection: please use the accessories recommended and specially designed by the manufacturer, otherwise it may cause unsafe operation.
4. The rated speed of accessory must be at least equal to the maximum speed marked on the electric tool. The accessory will crack and fly out if its operating speed is greater than the rated speed.
5. The outer diameter and thickness of accessory must be within the rated capacity of electric tool: incorrect accessory size cannot be adequately protected and controlled.
6. The shaft hole size of the grinding wheel or any other accessories must be suitable for the spindle of electric tool to be installed: the balance will be lost during operation if the accessories whose hole diameter is unmatched are installed on this electric tool, resulting that it is out of control and dangerous by excessive vibration.
7. Do not use the damaged accessories. Check the accessories before using the tool each time, for example check if the grinding wheel has fragments and cracks. Check if the outer flange nut has cracks, tears or excessive wear. Check whether the electric tool or accessory is damaged when they are dropped. When inspecting the attached accessories, keep yourself and bystanders away from the surface of the rotating accessories, and operate the electric tool at the maximum no-load speed indicated on it for 1 min; the accessories will be cracked during the test if they are damaged.
8. Wear the protective equipment. Wear the face shield, safety goggles or safety glasses according to the operation. Please wear the dust mask, hearing protectors, gloves and work apron that can block small abrasives or workpiece fragments during operation. The eye protection cover must be able to block the flying debris generated in various operations, and the dust mask or cover can filter the particles generated in the operation. The hearing loss can be caused if working in a high-intensity noise for a long time.
9. Keep bystanders a safe distance from the work area. Anyone entering the work area must wear protective equipment. The work pieces or the pieces of broken accessories may fly out and cause injury to bystanders who are close to the operating area. The exposed metal parts of electric tool will be charged when the cutting accessory touches the live wire, and the operator will get an electric shock.
10. Keep the cord away from the rotating accessories. The cord may be cut or entangled if it is not properly controlled, resulting that your hand or arm may be caught in the rotating accessories.
11. Do not start the electric tool when carrying it. Otherwise, it may entangle your clothes and cause yourself injury if you accidentally touch the rotating accessories.
12. Always clean up the vents of electric tool. The motor fan will suck dust into the casing during operation, and excessive metal powder deposits can cause electrical hazards.
13. Do not use accessories that require coolant. It may cause electric corrosion or electric shock when using water or other coolants.

14. Do not put down the electric tool until the accessory completely stops moving. The rotating accessory may grab the surface and pull the electric tool, making you lose control of the tool.
15. Do not operate electric tools near flammable materials. Sparks may ignite these materials.
16. You can only operate the electric tool by holding its insulated grip surface if work in a place where the cutting accessory may cut the hidden wire or its own wire. The exposed metal parts of electric tool will be charged when the cutting accessory touches a live wire, and the operator will get an electric shock.

II. Grinder Warning - Rebound

Rebound is a sudden reaction force caused by the grinder accessories or other accessories, these grinder accessories are out of control because the rapid block happens on the rotating grinder accessories which get stuck or entangled. The stuck or entanglement will cause the rotating electric tool to produce a movement opposite to the rotation direction of accessory at the stuck point. For example, the grinding wheel edge that extends into the stuck point may enter the material surface and cause the grinding wheel to crawl out or rebound if the grinding wheel is entangled or stuck by the workpiece. The grinding wheel may fly to or fly away from the operator. The rebound is caused by the misuse or improper operation of electric tool, which may be avoided by taking the appropriate precautions given below.

1. Keep a tight grip on the electric tool, so that your body or arms are in the correct state to resist rebound force. Always use the auxiliary handle to maximize the control of rebound force and torque when starting if there is an auxiliary handle. The operator can control the reaction torque or rebound force if the appropriate precautions are taken.
2. Never bring your hand close to the rebounding accessory, which may rebound and touch your hand.
3. Do not stand where the electric tool may move when rebound occurs. The rebound will drive the tool to move against the movement direction of the grinding wheel at the entanglement point.
4. Pay attention when working at sharp corner, sharp edge, etc. to prevent the accessory from bounce and entanglement. The sharp corner and sharp edge are likely to entangle the rotating accessories and cause rebound for loss of control.
5. Do not install saw chain, woodcarving blade or toothed saw blade. These saw blades will produce frequent rebound and loss of control.

III. Grinder Warning - Grinding and Sanding Operation

1. Only use the recommended grinding wheel model and the guard specially designed for choosing the grinding wheel. The grinding wheels that are not designed for electric drive cannot be adequately protected and are not safe.
2. The guard must be firmly attached on the electric tool and placed in the safest way. Only the smallest part of the grinding wheel is exposed to the operator. The guard is helpful to protect the operator from the risk of the cracked grinding wheel fragments and accidental contact with the grinding wheel.
3. The grinding wheel is only used for the recommended operation. For example: do not use the side of the cutting wheel for grinding operation. The force applied to the side of the grinding wheel may break the grinding wheel.
4. Always choose the undamaged grinding wheel flange which has proper specification and shape for the selected wheel. The proper grinding wheel flange can be used to support the grinding wheel, reducing the breakage possibility of grinding wheel. The cutting wheel flange can be different from the grinding wheel flange.

5. Do not use the worn-out grinding wheels left over from large-size electric tools. The grinding wheels used on large-size electric tools are not suitable for the high-speed working conditions of smaller-size tools and may crack.

Usage and Specification

This product is a hand-held angle grinder powered by a single-phase series motor.

This product is suitable for grinding metal materials with fiber-reinforced depressed center grinding wheels under general environmental conditions.

This product is widely used in the construction of metals and building materials.

The performance and specifications of this product are shown in the table below:

Model	PAG 05-100
Rated voltage	220V~
Rated frequency	50Hz/60Hz
Rated input power	1050W
Rated speed	12000r/min
Grinding wheel specification	Grinding wheel OD100mm, inner hole 16mm
Net weight	1.5kg

Model	PAG 5803
Rated voltage	220V~
Rated frequency	50Hz/60Hz
Rated input power	850W
Rated speed	11500r/min
Grinding wheel specification	Grinding wheel OD100mm, inner hole 16mm
Net weight	1.4kg

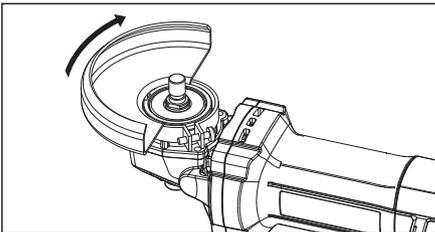
Note: The manufacturer reserves the right to change specifications without notice.

Operating Instruction

● Install or remove the guard

Always attach the grinding wheel guard when using the grinder! Align the clamp flange of the grinding wheel guard with the notch of head shell cover. Then turn the grinding wheel guard 180 degrees clockwise. Check the screw is tightened. Remove the guard in reverse order.

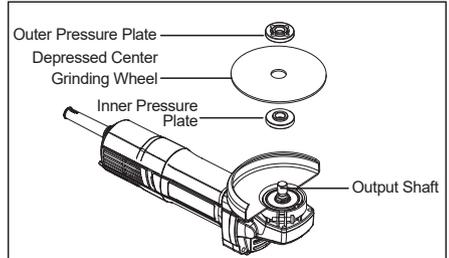
***Note: always make sure that the tool is turned off and not plugged into a power outlet before installing or removing the guard.**



● Install or remove the depressed center grinding wheel

Install the inner pressure plate on the spindle, then install the grinding wheel on the inner pressure plate by sleeving it into the spindle, and screw the outer pressure plate onto the spindle. Press the shaft fixing device to prevent the spindle from rotating. Then tighten the outer pressure plate by using a lock nut wrench.

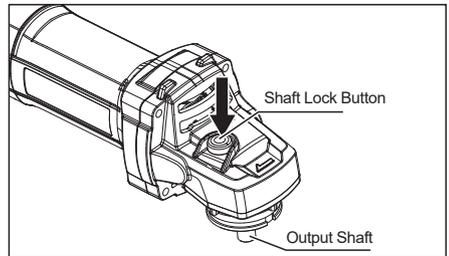
***Note: always make sure that the tool is turned off and not plugged into a power outlet before installing or removing it.**



● Shaft lock operation

Note:

Do not use the shaft lock when the output shaft is rotating to avoid damaging the tool. Press the shaft lock to prevent the output shaft from rotating when installing or removing accessories.

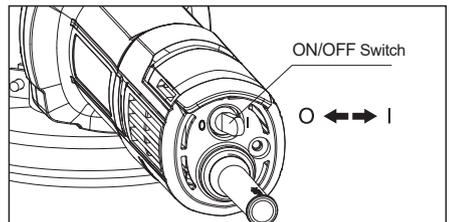


● Switch operation

Turn the ON/OFF switch to the position "I" to turn on the tool, and turn the ON/OFF switch to the position "O" to turn off the tool.

Note:

Always check the switch is working properly and the ON/OFF switch is turned to the position "O" (Off) before inserting the tool into the power supply.



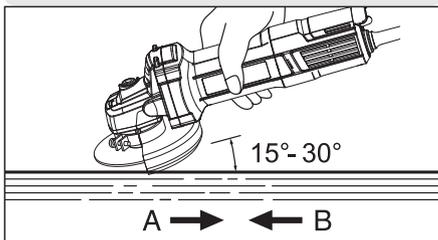
● Operation

- Generally, the grinding wheel edge should be kept at an angle of 15°-30° to the workpiece surface.
- Do not operate the new grinding wheel in the direction B, otherwise the workpiece will be cut off. The grinding wheel can be operated in any direction A or B after its edge is round.

Note:

It is not necessary to apply excessive force on the tool. The appropriate pressure will be produced due to the tool weight itself. The grinding wheel will be damaged and personal danger will be caused if the pressure is too much.

Stop using the grinding wheel when it is worn to 75 mm. It is very dangerous if it continues to be used. It is necessary to replace with the new grinding wheel immediately, and dispose the old grinding wheel deliberately.



Inspection and Repair

- The custodian must conduct a daily inspection when the tool is sent out or taken back: the user must conduct a daily inspection before use.**
- The daily inspection of the tool should include at least the following items:**
 - Whether there is product certification mark and regular inspection conformity mark.
 - Whether the shell and handle are cracked or damaged.
 - Whether the connection of the protective earthing conductor (PE) is undamaged.
 - Whether the power cord is intact.
 - Whether the power plug is intact.
 - Whether the power switch is normal and flexible, and whether it is defective or broken.
 - Whether the mechanical protection device is intact.
 - Whether the rotating part of the tool rotates flexibly, briskly and without blocking.
 - Whether the electrical protection device is good.
- The regular inspection should be conducted by a full-time personnel in the tool using unit.**
 - Check at least once a year.
 - In areas with damp heat and frequent temperature changes or places with harsh operating conditions, the inspection cycle should be shortened accordingly.
 - Inspection should be carried out in time before plum rain season.
 - For regular inspection items of tools, the insulation resistance of the tools must also be measured. Insulation resistance should not be less than the value specified in Table 1. Insulation resistance should be measured with a 500v megameter.

Table 1

Measuring position	Insulation resistance/MΩ		
	Class I tools	Class II tools	Class III tools
Between live parts and housing	2	7	1

- For tools that are regularly inspected and qualified, the inspection "Qualified" mark should be pasted on the appropriate part of the tool. The "Qualified" mark should be bright, clear, correct and include at least:
 - Tool number
 - Name of inspection unit or mark
 - Name of inspector or mark
 - Effective date
- For tools that have been left unused for a long time, the insulation resistance must be measured before use. If the insulation resistance is less than the value specified in Table 1, it must be dried, and it can be used after passing the inspection and pasting the "Qualified" mark.
- If the tool is damaged in insulation, the power cord sheath is broken, the protective earthing conductor (PE) falls off, the plug and socket are cracked, or the mechanical damage is detrimental to safety, repair it immediately. Do not continue to use until repaired.
- Tool maintenance must be carried out by a maintenance center approved by the original manufacturer.
- The use unit and maintenance department shall not arbitrarily modify the original design parameters of the tool, and shall not use substitute materials that are lower than the performance of the raw materials and components that do not conform to the original specifications.
- During maintenance, the insulating gaskets and sleeves in the tool must not be arbitrarily removed or missing, and the power cord of the tool must not be arbitrarily exchanged.
- After the electrical insulation part of the tool is repaired, the dielectric strength test must be carried out according to the requirements of Table 2.

Table 2

Measuring position	Test voltage/V		
	Class I tools	Class II tools	Class III tools
Between live parts and housing: - Isolation from live parts only by basic insulation	1250	-	500
- Isolation from live parts by reinforced insulation	3750	3750	-

The waveform is an actual sine wave, and the test voltage with a frequency of 50Hz is applied for 1 min without insulation breakdown or flashover.

The test transformer should be designed as follows: after the output voltage is adjusted to an appropriate test voltage value, when the output terminal is short-circuited, the output current is at least 200mA.

- After the tools have been repaired, inspected and tested qualified, they should be pasted with a "Qualified" mark on the appropriate part: for tools that cannot be repaired or cannot meet the due safety technical requirements after repairs, they must go through the scrap procedures and take isolation measures.

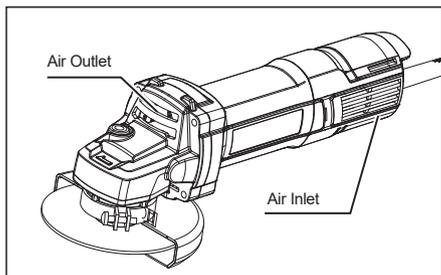
Maintenance and Service

Note:

Before doing inspection and maintenance work, be sure to turn off the switch and unplug the power plug.

● Cleaning air vent

The air inlet and outlet of the tool must be kept clean. It should be cleaned regularly or cleaned at any time when blockage occurs.

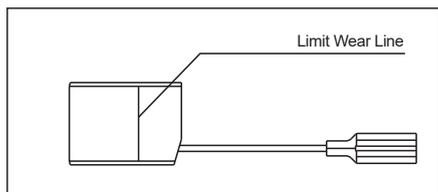


● Replacing carbon brush

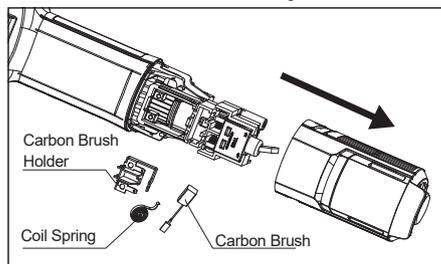
Note:

Before doing inspection and maintenance work, be sure to turn off the switch and unplug the power plug.

The carbon brushes are consumable on the motor. The motor will have failure once its abrasion exceeds the wear limit. Therefore, the worn carbon brushes should be replaced with new ones immediately. In addition, the carbon brush must always be kept clean so that it can slide freely in the brush holder.



Remove the rear cover by using a screwdriver, unplug the carbon brush wiring plug from the pins of the carbon brush holder, pull up the coil spring, take out the worn carbon brush, insert the new carbon brush, press on the coil spring, insert the carbon brush wiring plug into the pins of the carbon brush holder, and then re-tighten the rear cover.



**In order to ensure the safety and reliability of the product, please send your electric tools to professional maintenance center for repair.
Please use our company's original accessories.**

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