

# Operating & Safety Guide

## Floor Grinder HTG 680-4A 3 Phase

### Warning

Failure to follow these instructions may result in serious personal injury or death. Concrete Care disclaims all responsibility for damage to persons or objects arising as a consequence of incorrect handling of the equipment and failure to inspect the equipment for damage or other faults that may influence the operation prior to starting work.

### Safety



The above symbols represent Personal Protective Equipment (PPE) required for operating this equipment

The equipment may only be operated by persons trained in the operation and service and who have been expressly authorised to do so.

- The machine may only be operated with the power supply cable in proper working order. The power supply cable must be checked regularly for signs of damage and may only be replaced by qualified technicians.
- When the machine is in use the operator must ensure that nobody is in the danger area of the rotating tools.
- Service and repair work and rectification of faults may only be carried out with the mains plug disconnected.
- Repairs may only be carried out by qualified technicians acquainted with the safety regulations. No modifications to the machine are allowed.

Vibration will occur at various levels dependent on the attachments and work being completed. It is recommended that tests are taken upon operation to provide the operator with information on using the equipment within the guidelines laid down by the Health & Safety Executive.

### Electrical Requirements

Voltage	Plug Size	Cable Size	Max Cable Length	Transformer	Generator
3 Phase	32A 5 Pin	4 sq. mm	75m	-	15 KVA

# 1. Introduction

## 1.1 Summary

Xingyi machine are used to handle the floor surface. The scope of use of the machine depends on the choice of the tool. In addition to the use and general functions, this manual describes information on the use, repair and maintenance of the grinder. You can contact your local retailer for further information.

## 1.2 Responsibility

We make every effort to make this manual as complete and accurate as possible, and we are not responsible for any errors or loss of information. Xingyi reserves the right to change the instructions in this manual without prior notice.

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## 1.3 Accessories

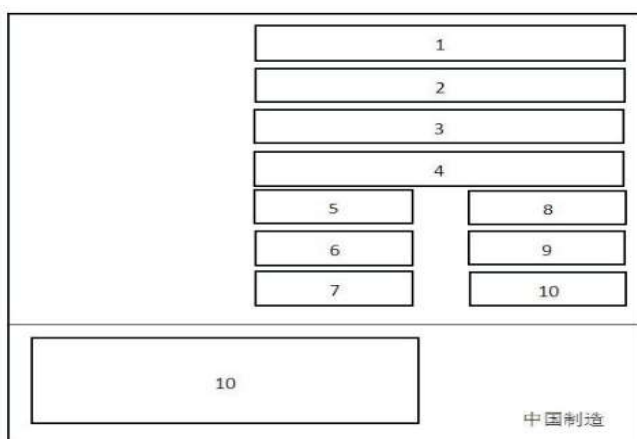
Below accessories are included with the grinder. Contact your supplier if anything is missing.

- (1) Grinding machine x 1set
- (2) User manual x 1
- (3) Convert block x 12pcs
- (4) Power plug x 1pcs
- (5) Dust skirt x 1pcs
- (6) Key for inverter box x 2pcs
- (7) Quick Connector

## 1.4 Package Acceptance

Check carefully to see if the package or the grinder has been damaged during delivery. If there is any sign of damage, contact your supplier and report it. Check that the delivery matches the order. If there are any discrepancies, contact your supplier.

## 1.5 Machine name plate



- |                       |                     |
|-----------------------|---------------------|
| 1、 Model              | 6、 Voltage          |
| 2、 Model number       | 7、 Electric current |
| 3、 Manufacturer       | 8、 Frequency        |
| 4、 Manufacturing date | 9、 Weight           |
| 5、 Power              | 10、 Address         |

## 1.6 Handling and storage

The grinding machine should be stored in a dry place at room temperature when not in use. Otherwise it may be condensed and cold damaged. The size and weight of the grinder are given in the technical data of the Manual.

Note! Improper operation may lead to the grinding machine overturned and damaged, even endanger personal safety.

## 1.7 Warranty items

This warranty covers only manufacturing defects. Xingyi does not assume damage in the transport, unpacking or operation. The manufacturer is not responsible for any damage or defects caused by improper use, corrosion or use of specifications beyond the noted specifications. The manufacturer shall not be responsible for any indirect damage or expense under any circumstances. For complete information on the manufacturer's warranty period, please refer to the current warranty terms of Xingyi. Local retailer may have special warranty terms. If you have any uncertainty about the warranty terms, please contact with your retailer.

## 2. Safety guidance

### 2.1 Overview

This manual records the key information for machine safety operation. Read the manual carefully before your first operation.

Non-standard operation, modification or maintenance without training may cause losses, machine problems or injury. You are allowed to operate the machine after training. All maintenance must be done by qualified professional technician. Any machine parts that need to be changed must be provided by XINGYI.

Xingyi machines only can be used in the way of xingyi recommended. And they only can be used for commercial purposes. Anyone who uses a machine should know its function, the location of the emergency stop. The operator should have to ensure the safety rules that the unauthorized person can not be stationed at work area when the machine starts.

The operator should be equipped with professional personal protective equipment when you are at work: safety goggles, protective gloves, safety shoes, breathing masks, protective earmuffs, etc. Do not wear loose clothes or anything that can grasp things such as scarves, bracelets, rings and so on.

#### **Note:**

1. It is strictly prohibited to operate under the condition that the electricity is less than 20%, especially on slopes, to avoid personal injury.
2. When working on the slopes, please check the battery's electricity should be more than 40%, the power supply shall not be lower than 350V and the clutch is locked.
3. When this machine needs to operate in a place with slopes, it should be less than 25 degrees. The company is not responsible for any accident caused by the operation when the slope is greater than 25 degrees.
4. This machine is only used for floor grinding, polishing;
5. Read and understand the safety guide totally. Different models have different accessories and operation instructions.
6. Operation of this machine only needs one person. Keep children and irrelevant person away. Keep in mind that "one machine one person".
7. Operator who is in poor physical state or without training is not allowed to operate the machine. The operator and the repairman must be physically strong and able to withstand the weight of the whole machine and the working intensity of the motor.
8. Do not lend or rent the machine without instruction manual.
9. Wear helmet, safety shoes, the headset, non-moist goggles and masks when operating the machine.
10. Keep body, jewelry or any loose clothing away from machine moving parts. Otherwise, it may endanger

personal safety.

11. Random modification of the machine is not allowed. Only XINGYI accessories can be used for maintenance and adjustment.
12. Do not operate the machine in rainy or foggy days.
13. Ensure no explosive flammable materials and steam nearby when operate machine. Do not operate machine nearby the place with fuel, grain dust, solvents, dilution agent or other flammable items.

## 2.2 Operation safety guidance

1. Operators should wear protective equipment when using the machine, such as dust masks, protective gloves, overalls, helmets, insulated shoes and so on.
2. Make sure there is no oil leakage, electric leakage, water leakage on the machine before using. The machine can be used normally.
3. Check the machine control switches and electric parts are in good conditions without moisture.
4. Make sure no obstacle or human being at working area, and make sure there is enough lighting device.
5. The dust cover should be installed on the machine for safety. It is necessary to connect to industrial vacuum cleaner when dry grinding.
6. The machine should be connected to appropriate electrical outlet. Only use the power cables that can withstand high current.
7. Do not adjust the handle during machine operation. Only when the machine is stopped and the emergency stop switch has been pressed, the worker can adjust the machine.
8. The handle has different functions when it is in different positions. Please read the manual for more information.
9. Ensure the machine has stopped operating and the emergency stop button is pressed when changing abrasives or accessories. If necessary, disconnect the power and the plug.
10. Keep the machine away from drains and furnace mouths or other dangerous goods, otherwise it may cause personal injury or loss of machinery and property.
11. Tight-hold hand grip, clockwise rotate the emergency switch, then turn on the power button and start the machine.
12. Please note that the emergency stop switch can only be pressed or rotated. Prohibit upward pull.
13. Before operation, check the working surface and remove any protrusion to prevent machine plates and pads from damage.
14. Double check before connecting to power, make sure the working Voltage, HZ is same with input Voltage and HZ, no lack of phase of input power. (If the machine do not work normally, and it results in the input power and working power is not the same, then manufacturers warranty is unavailable.)
15. Connecting with vacuum to achieve dust free working condition.
16. Install appropriate abrasive. Improper abrasive may cause personal injury and floor damage.
17. After installing the abrasive, keep the grinding plate touch with ground directly, adjust handle bar to the "lifting position", so that the operator could operate the machine easily.
18. When machine inverter turns to overload protection, it means there is something wrong with the machine (cable is too small or voltage is unstable), if so please reference the following cable sizes which are recommend. Or reduce the abrasive pressure (adjust the additional to suitable position) if users keep using the machine when overload leads to damage, it would be not allowed to guarantee.
19. After few minutes of grinding, stop to check how much the abrasive uses. This behavior could reduce the economic loss when using wrong polishing pads.
20. Please do not upward the machine when machine is still running, otherwise the polishing pads may fly out to threat the human safety.

## 2.3 Electrical safety guidance

1. All circuit repairs can only be carried out by qualified personnel;
2. Note: After the machine is stopped, the line is still energized. Disconnect all power before servicing the machine.
3. The machine is equipped with an overload protection device and it will automatically jump off when the machine is overloaded, to prohibit the machine from running; (re-adjust this overload in case of safety)
4. Continue to use the machine in the overloaded situation may cause some other losses even machine can't work normally, then manufacturer's warranty is unavailable.
5. The purpose of installing an inverter in machine is to speed and protect the user and the machine. It is forbidden to modify or adjust the inverter and modify the inverter parameters without the manufacturer's consent. If the unit fails, it is only allowed to replace the defective parts with the accessories provided by the manufacturer; (Other loss caused by changing, adjusting or modifying the inverter parameters without the manufacturer's consent, and the machine is not working properly, the manufacturer does not afford warranty)
6. Never modify the parts or lines inside the inverter by yourself.
7. Do not operate the machine when the distribution box is turned on.
8. If the machine current is overloaded, please pay special attention;
9. When the cables are energized or loaded, do not connect or disconnect the wires;
10. Using a damaged power cord may result in electric shock. Do not use a damaged power cord;
11. Cables should be kept away from hot surfaces;
12. The dryness of all electrical equipment should be maintained and the machine should be kept in a dry place;
13. After the power is turned off, before the panel indicator is off, it indicates that there is still high voltage inside the inverter, which is very dangerous. Do not touch the uninsulated electrical equipment;
14. The machine motor and the frequency conversion box are prohibited from entering water; (the other damage caused by the water inflow then the machine is not working properly, the manufacturer does not afford the warranty);
15. The machine must be connected to the qualified wire and voltage, specifications are noted by the manufacturer. (The machine label indicates the power supply specifications).

## 3. Machine

### 3.1 Overview

680-4A is used to grind (rough grind, fine grind and polish) concrete, natural stone and terrazzo floors or other materials specified in this manual or recommended by XINGYI.

The 680-4A is a self-propelled grinder. The forward/reverse switch can be used to control the forward and backward movement of the driven wheel, so that the user can get rid of the action of manually pulling or pushing the machine to forward/reverse, which greatly saves manpower and facilitates user operation. The innovation of this equipment is that it is equipped with a water tank and adds additional weight. The heat dissipation openings on both sides of the water tank make the heat dissipation of the frequency conversion box faster and extend the service life of the internal electrical appliances. The design of the water tank allows the equipment to be applied not only in dry grinding but also water grinding. The benefits of water grinding are as follows: good flatness, small cutting amount, easy polishing, suitable for later stone polishing. Increasing additional weight makes the lifting easier, and the grinding pressure can be increased during grinding to make the ground smoother.

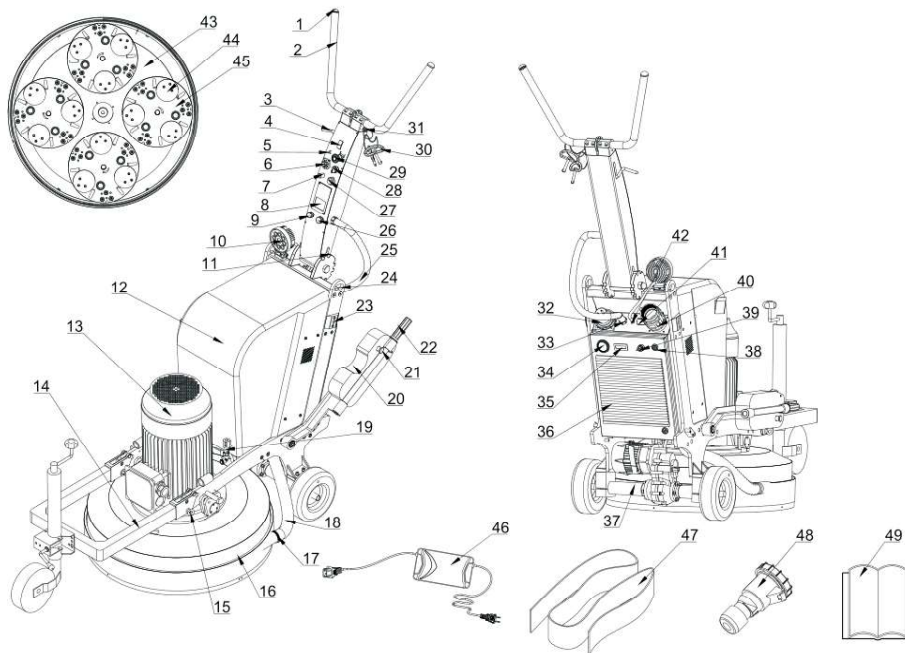
The swing lever and handle can be set in many different tilted positions. When the machine is manually operated, you can choose the most suitable position. The grinding head of the machine can be used with different grinding plates for operation. The dust belt covers the working area of the grinding head. Because of the floating design, it always touches the floor, which not only ensures that the operator does not touch the

rotating mechanical parts, but also reduces the exposure of dust and improves the dust absorption efficiency of the vacuum cleaner.

When dry grinding, to prevent dust from being exposed to air, posing a threat to the health of the operator and nearby people, make sure that the vacuum cleaner is connected to grinder (preferably equipped with a vacuum cleaner manufactured by Xingyi) Due to inhalation of dust is harmful in the course of operation, even there is a vacuum cleaner protective mask is also necessary to protect health.

The machine can use different Xingyi abrasive. Due to the different ground materials, the abrasive discs used in grinding are also different.

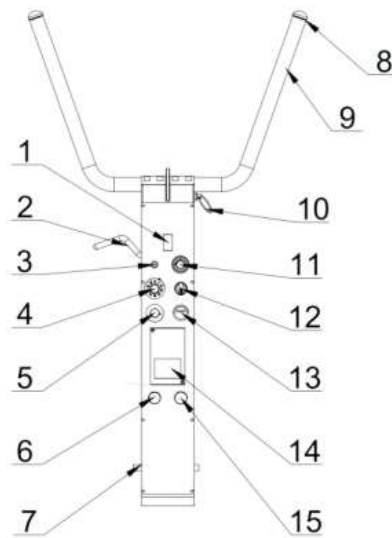
### 3.2 Machine Parts



- |  |                                 |
|--|---------------------------------|
| 1. Handle rubber sleeve                | 26. Operation indicator         |
| 2. Elbow handle                        | 27. USB interface               |
| 3. Swing lever angle adjustment handle | 28. Forward and reverse switch  |
| 4. Forward and backward switch         | 29. Emergency stop switch       |
| 5. LED light switch                    | 30. Inverter box key            |
| 6. Motor speeder (disc)                | 31. Handle adjustment latch     |
| 7. Driving wheel speeder               | 32. Power outlet                |
| 8. Display                             | 33. Wire connector              |
| 9. Power indicator                     | 34. Timer                       |
| 10. LED lights                         | 35. Battery power indicator     |
| 11. Swing lever locking rod            | 36. Heat sink                   |
| 12. Water tank                         | 37. Driving wheel motor         |
| 13. Motor                              | 38. Electronic control box lock |
| 14. Front wheel supporting device      | 39. Drive wheel start switch    |
| 15. Supporting wheel bolt              | 40. Suction inlet               |
| 16. Floating dust cover                | 41. Battery charging port       |
| 17. Hose clamp                         | 42. LED light interface         |
| 18. Suction pipe                       | 43. Gear box                    |
| 19. Water switch                       | 44. Conversion block            |
| 20. Additional weight                  | 45. Grinding plate              |
| 21. Additional weight bolt             | 46. Charger                     |
| 22. Additional weight bolt pole        | 47. Dust cover                  |
| 23. Additional weight limiting device  | 48. Power plug                  |
| 24. Lifting hole                       | 49. Manual                      |
| 25. Corrugated pipe                    |                                 |

## 3.3 Swing lever accessories

### 3.3.1 Overview



1. Forward/reverse switch: Controls the forward and backward movement of the machine.
2. Swing lever angle adjustment handle: the handle can adjust the angle of Swing lever to corresponding location.
3. Driving wheel speeder: adjust the walking speed of driving wheel.
4. Speeder: adjust the rotation speed of motor.
5. LED light switch: control the LED light.
6. Power indicator: When the device is plugged in, the power indicator will light up.
7. Swing lever locking rod: lock the rotation of swing lever.
8. Operation handle: Where people put their hands when operating the machine.
9. Sponge cover (handle): make the operation more comfortable.
10. Operation handle angle adjustment bolt: pull out the bolt and the handle can be rotated freely to the proper position to operate the device.
11. Emergency stop switch: When the device is in a dangerous state or needs to stop working, press the emergency stop switch to cut off the power and stop the operation of the device to achieve the protection of personal and equipment safety.
12. Forward/reverse switch: The switch has three gears. Turn on the emergency stop switch. Turn it to the left to rotate the motor forward, turn to the middle gear to prevent the motor from rotating, and turn to the right to reverse the motor.
13. USB interface (clock): used to charge.
14. Display: display some parameters, such as voltage, current, motor speed and fault code.
15. Running indicator: When the device is working normally, the running indicator lights up.

### 3.3.2 LED light switch equipment

Toggle the LED light switch to ON, LED light will be turned on, otherwise turned off.

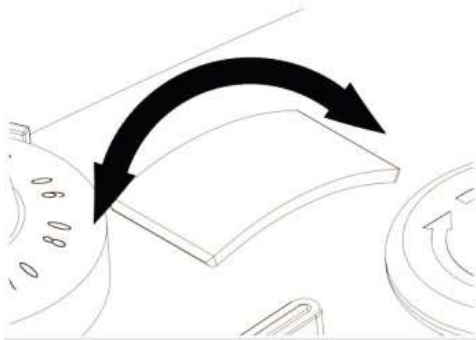
The base of LED light is magnetic to placed freely. During operating, the different positions need different lighting direction. Under the circumstances, user can put the LED lights on the desired location to illuminate.



### 3.3.3 Step forward / back device

The forward / reverse device is mainly used to control the forward or backward movement of the machine. Users can make the machine move forward/backward without pulling or pushing. Such this device greatly reduce the manpower, making the more convenient operation.

The forward / backward device has three main gears, one is forward: press forward, then the machine forward move; the second is the middle gear, press to the middle gear, the machine remains stationary (if the machine is currently forward, you should press back it to the middle gear; The third one is the reverse gear, press it back, then the machine to recede accordingly.

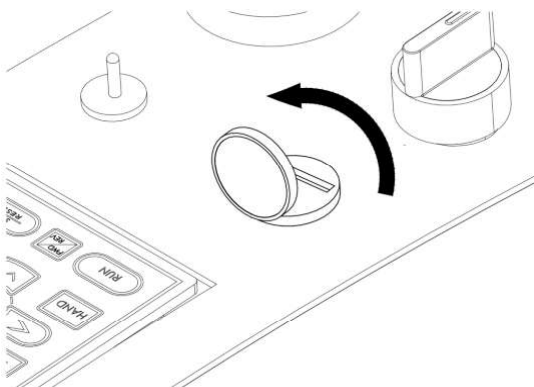


**Note:**

In the exchange of different gear, it should be noted that overexertion will lead to trip over stop. During grinding, do be sure to connect a vacuum cleaner. It is suggested to use the vacuum cleaner produced by XINGYI to ensure the vacuuming efficiency. Bad vacuum cleaner is likely to clog the dust in forward / revers switch, resulting in a switch failure.

### 3.3.4 USB charge (clock)

There is a watch shape of the device on the control panel. The clock is convenient for users to see the current time. Turning up the the clock , we can see a USB interface, which can be used to charge mobile phone or other device.

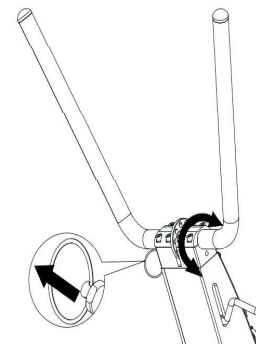


**Note:**

Be sure to cover the lid when it is not charging. To prevent dust from entering, plugging or damaging the USB interface, do not expose the USB outside.

### 3.3.5 Handle

The swinging lever adjustable device adjusts the different positions of the swinging lever by adjusting the handle to adapt to the conversion of the machine placement mode in different states. Hold the handle in one hand to support the swing lever, press the adjustment handle with the other hand down, and rotate the swing lever to the desired position according to the hole position on the sector plate, then release the adjustment handle.



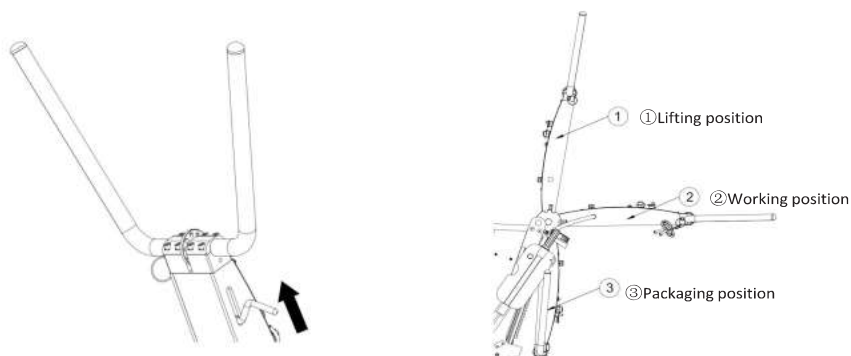
**Note:**

1. When plugging out the pin, sometimes it will be caught, and the pin can be pulled out by shaking the support wheel.
2. When the handle adjustment bolt is automatically reset, the hole may not be aligned, just rotate up and down



3. When adjusting the position of the handle, please check whether the handle adjustment pin has been automatically reset before operating the machine.

### 3.3.6 The angle adjustment of swing lever

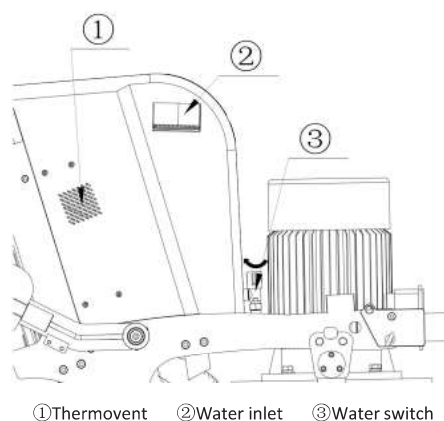


#### Note:

After adjusting the position of the swing rod, it is necessary to check whether the swing rod has been limited before operating the machine.

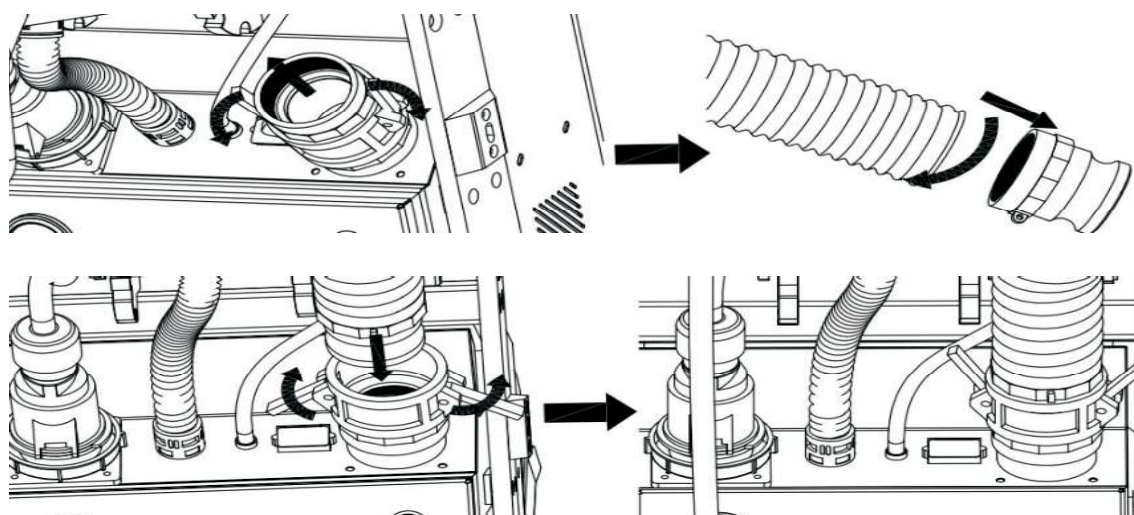
### 3.4 Water tank

There is a water inlet on the side of the water tank (open the water injection port as shown below). The heat dissipation openings on both sides of the water tank make the heat dissipation of the inverter box of the equipment faster, and can extend the service life of the electrical appliances inside the inverter box. Turn the water switch clockwise to start water grinding.



### 3.5 Quick Connector

Quick coupling consists of front and rear part (As follows), the front part is usually assembled with the vacuum nozzle of the grinder (screw the front part into the vacuum tube connection and screw it tightly), the rear part is matched with the vacuum tube (Screw the copper wire suction tube into the back and tighten). Grinding machine needs to be connected to a vacuum cleaner in drying grinding. Connect the rear part and the front part which are matched with vacuum tube (the rear part is screwed into the front and the front side is pulled forward to lock. The specific action is as follows)



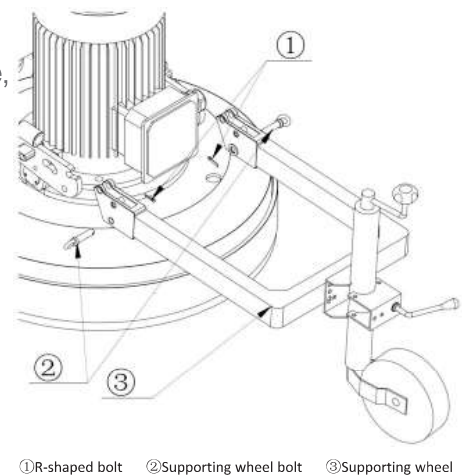
## 3.6 Front wheel

### 3.6.1 The dismantle of front wheel

The supporting wheel is assembled before the travelling transportation, which can make the steering smoother. When transporting the machine, sometimes it is necessary to move the machine forward and backward, so it is more convenient and labor-saving to install the supporting wheel to carry out the movement of the grinding machine. Remove or invert it when grinding.

Remove the support wheel: press the emergency stop switch, unplug the power plug, unravel the R-shaped split pin, remove the locating pin outward, and translate the support wheel downwards.

Install the support wheel: press the emergency stop switch, unplug the power plug, align the support wheel with the pin hole of the front wheel support frame, then insert the positioning into the positioning, insert the R-type cotter pin, and fix the locating pin.



#### Note:

When plugging out the pin, sometimes it will be caught, and the pin can be pulled out by shaking the support wheel.

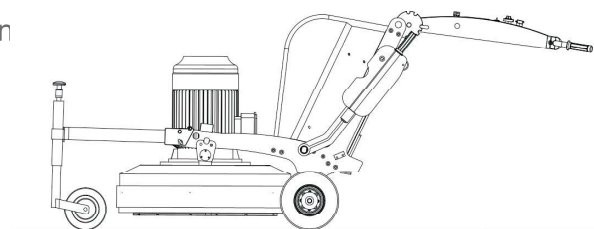
When pulling out the latch, hold the support wheel with one hand to prevent the support wheel from suddenly turning down.

### 3.6.2 The lifting and lowering of front wheel

The support wheel can be lowered by rotating the handle of the support wheel and raise the grinding device from the working area. (Clockwise rotate the support wheel handle to rise the grinding equipment from working area, anticlockwise to lower it)

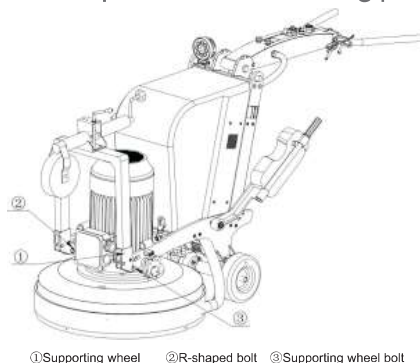
#### Note:

In the process of transportation, it would be better to remove abrasive in advance to prevent from falling and losing. If lose, manufacturer will not provide compensation. During rotating and rising, please tighten the lock handle to supporting axle, and then adjust lifting of the support wheel. The handle rotation direction: left to loose, right to tight.



### 3.6.3 Overturn of the front wheel

1. Unlock the R-type cotter pin, remove the positioning pin in both sides (No. 1 parts)
2. Then attach the support wheel (Part No. 1) to the front wheel support frame (Part No. 3) in the direction of rotation.
3. Insert the locating pin into the r-type cotter pin and fix the locating pin.

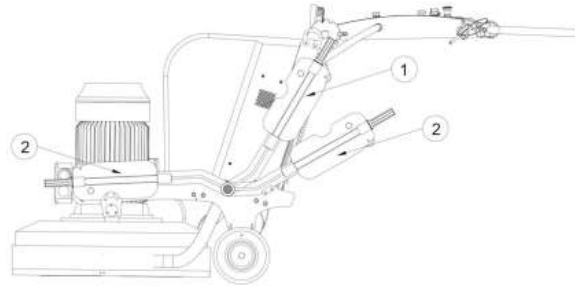


**Note:**

The support wheel must be lowered to the lowest position before it can be turned over. When the plug is pulled out, it may be stuck. Just shake the support wheel and pull out the bolt.

### 3.7 Additional weight

There are three positions for the additional weight iron: transporting, tilting, and working position. The adjustment and limit of the extra weight is mainly achieved by spring pin and limiting device on the frame.



①Transporting position ②Tilting position ③Working position

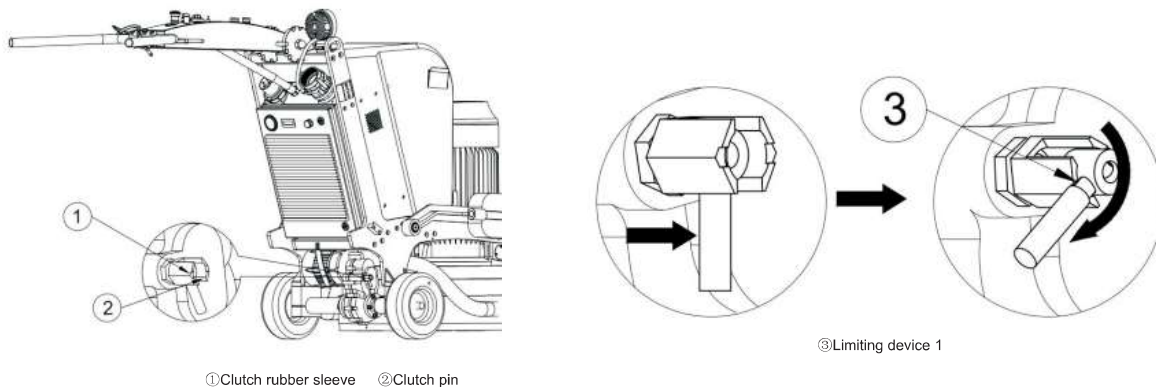
**Note:**

Please hold the additional weight iron when you switch it. When the additional weight iron is switched from the transporting position to the other position, pull out the handle on the additional weight iron positioning pin. Then the position can be switched.

### 3.8 Clutch device

The clutch device (the device composed of the clutch rubber sleeve and clutch pin is collectively referred to as clutch device) has two main states:

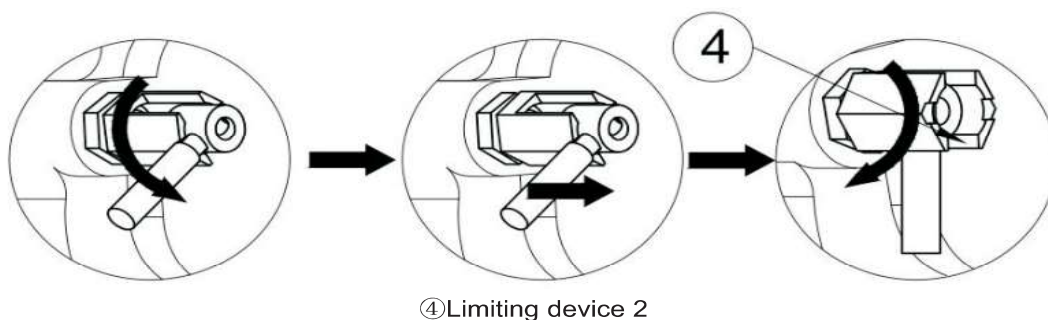
Unlocking state: When the machine is not working, loosen the clutch device, then pull out the clutch pin, rotate the clutch pin sleeve, and stuck the clutch pin in the limit device of the clutch pin sleeve to tighten the clutch device.



①Clutch rubber sleeve ②Clutch pin

③Limiting device 1

Locking state: When the machine starts working, loosen the clutch device, then pull out the clutch pin, rotate the clutch pin sleeve, and clamp the clutch pin on the limiting device 2 to tighten the clutch device.

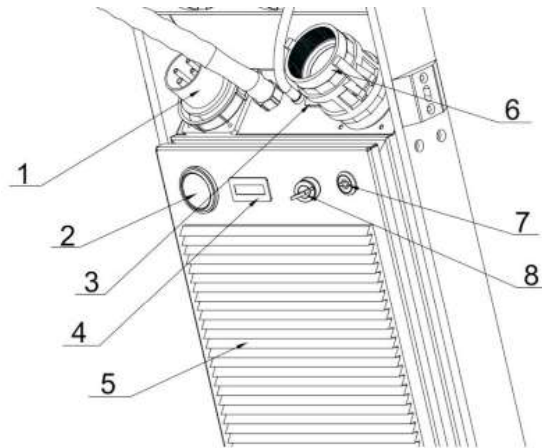


④Limiting device 2

**Note:**

1. The clutch may be stuck sometimes when you try to pull out, shake the machine in this case.
2. Rotate the clutch to proper position when grinding. Be sure to limit the clutch pin before working.
3. When pulling or rotating the clutch device, be sure to put the additional weight in working position first to prevent the iron from injuring or hitting people, causing unnecessary casualties.
4. When unplugging or screwing the clutch pin, do not screw the clutch device too loose or too tight, or the clutch pin cannot be pulled out and stuck in the limit device smoothly.

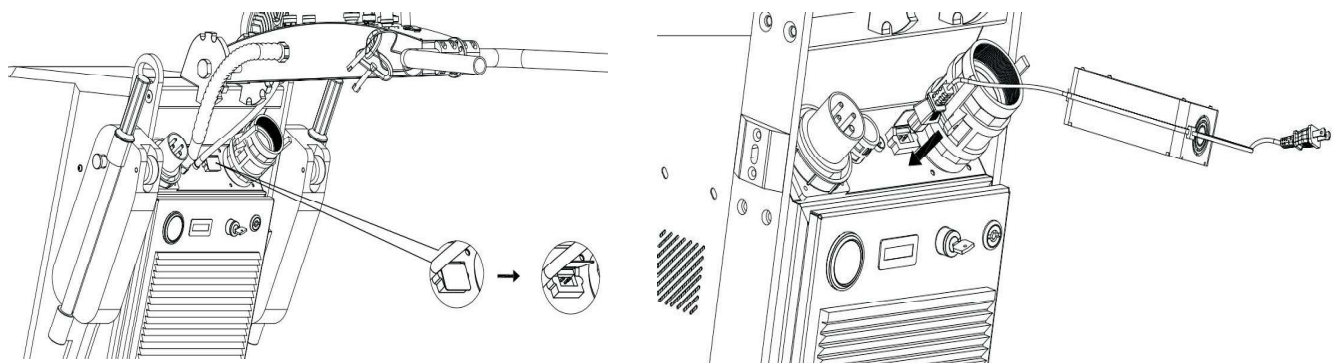
### 3.9 Inverter



1. Power socket: connected to an external power, supply power to the machine
2. Timer: shows the total running time of the device.
3. Charging hole: for the device's own internal battery to charge. Charge the internal battery of the machine
4. Battery indicator: mainly shows how much power reserve battery.
5. Heating sink: play a role in heat dissipation, to avoid excessive temperature inside the inverter box burning out electrical components.
6. Vacuum tube connector: connection to the vacuum cleaner.
7. Inverter box key lock: used to lock the inverter box.
8. Driving wheel start switch: Turn the key switch clockwise to start the drive wheel motor, conversely, to turn it off.

### 3.10 Reserve battery charge

When the machine's reserve battery has run down, the power indicator on the inverter box shows less than 20%, then it need to be charged. The charging port is next to the suction tube connector on the inverter box. Open the cover of the charging port and use the charger provided by the manufacturer to charge.



## 4. Machine operating

### 4.1 Overview

The following part mainly describes the grinder in different positions when the mode is switched to manual operation, the main operation of the grinder and how to install the grinding abrasive.

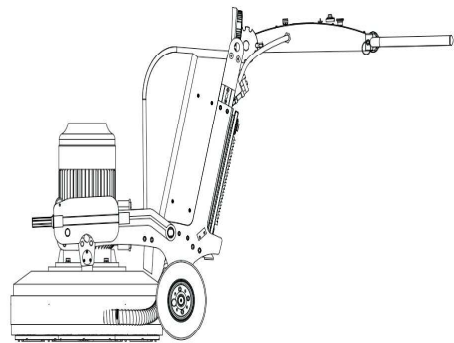
#### Note:

1. Grinders can only be used or repaired by personnel who have received the necessary theoretical and practical training and have carefully read the user manual.
2. Wear protective equipment such as protective gloves, protective masks, overalls, helmets, insulated shoes, etc. when operating the grinder.

### 4.2 Machine position description.

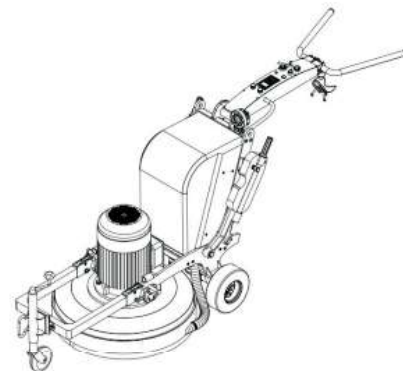
#### 4.2.1 Machine working position

During grinding, pull out the spring pin on the additional weight, reach the gasoline motor, gently lower the additional weight to the proper position, adjust the handle and swing lever position to achieve the most proper working position. Flip up or remove the support wheel.



#### 4.2.2 Machine carriage position

During transportation, adjust the additional weight, swing lever and handle to the transport position. Then, pull the clutch pin out. Lower and rotate the support wheels to lock, adjust the height of the support wheel so that the disc is off the ground for easy transportation.



#### Note:

Do not rotate the support wheel to an excessive position to prevent it from falling off, which may cause dangerous accidents;

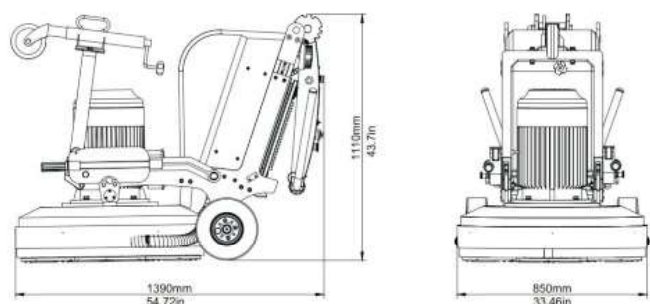
When rotating the support wheel, always pay attention to the height of the grinding disc from the ground. Be careful not to make the grinding disc too low. When it is too low, the grinding disc will cause collision with the ground and damage the grinding disc :

Rotate and lower the support wheel to raise the grinding machine from the working area. It is recommended that the lowest position of the grinding disc is 25mm from the ground.

#### 4.2.3 Machine package

Adjust the position of the swing lever, foot pedal and handle to the packaging position.

The minimum package size is as follows and the machine can be packaged according to the specific size.

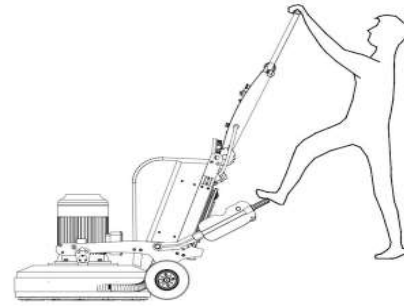


## 4.2.4 Machine upright position

Adjusting the bolt of the extra weight so that the extra weight is in tilted position, and adjust the handle, pedal and swing lever position to the lifting position.

(Recommended best lift up position)

Hold the handle with both hands and place one foot on the additional weight to force the machine down.



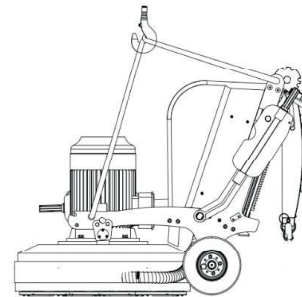
To put the machine down, you need to hold the handles tightly with both hands. Place feet on the handle of the extra weight lifter, balance the machine with your own gravity, and slowly lower it to protect the grinding head. When you put down the machine, pay attention to your own strength, and do your best to ensure the safety of the machine and the person. XINGYI company does not assume any responsibility for machine damage and personal injury caused by improper operation.

### Note:

After lifting up the machine, remember to stand next to the grinding head, slightly press the grinding head to see if the machine is stable for personal safety.

## 4.2.5 Lift the machine

Tie the lifting strap tightly to both the two lugs, one is next to the motor and the other one next to the dust cover.(Note: you need to use two ropes that can withstand 500 kg to bind the machine.



### Note:

1. When lifting the machine, it may cause personal injury or damage to the machine and surrounding objects. Make sure that no one is present in the danger zone during the lift.
2. After the rope is fixed to the lifting hole, you should also check whether it is firmly fixed.
3. The two ropes need to be diagonally connected to the lifting mouth.

## 4.2.6 Precautions

1. Improper operation may lead to the grinding machine overturned and damaged, even endanger personal safety.
2. When the handle adjustment pin is pulled out, it may get stuck. Just shake the handle and pull out the pin.
3. During adjustment, it is necessary to confirm the reset of the locking device before operating the machine.
4. Be careful when the grinder is adjusted to the position of transportation or packaging and there is a risk of crushing injury.
5. Dust inhalation is harmful. Please bring a professional mask during operation to ensure physical safety.
6. In the process of lifting and downing the machine, we must pay special attention to our own safety and avoid damage to the machine..

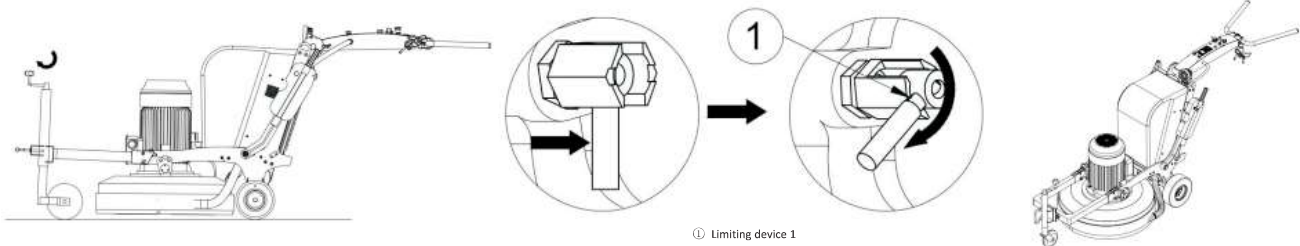
## 4.3 Transportation

There are two types of transportation methods for this machine, manual and automatic. It depends on the storage battery of the machine itself during transportation.

### 4.3.1 Manua

1. Adjusting the handle and swing lever to working position, additional weight to transport position. (The specific adjustment actions of each component are described above. The adjusted machine is shown below).
2. Rotating the support wheel handle can lower the support wheel and raise the grinding device from the working area. It is recommended that the lowest position of the grinding disc is 25mm from the

- ground;
- Unlocking the clutch device: Unscrew the clutch device, then pull out the clutch pin and rotate the clutch pin sleeve, and embed the clutch pin in the inhibiting device of the clutch pin sleeve to tighten the clutch device.
  - Use the handle to push the machine.



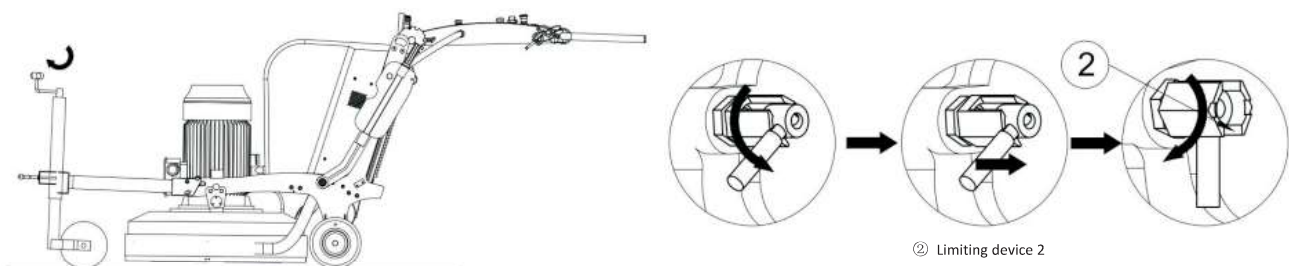
**Note:**

- When the clutch pin is pulled out, it may get stuck. Just shake the machine and pull out the clutch pin.
- Pay attention to your own safety when lifting the machine, be sure to do no more than you can.
- Take out the grinding pads to prevent it drops and lost before transport, resulting in unnecessary losses.
- When using manual push mode, the clutch must be unlocked.
- Using hand-push way when clutch device in the locked state, will result in the drive motor damage!
- When rotating the support wheel, remember do not to rotate to the highest position, to prevent the support wheel off lead and the final hole is not aligned well
- Rotating the support wheel, it is necessary to always pay attention to the height of the grinding disc from the ground, which can not be too low to prevent the disc shaking lead to collision with the ground, damage the disc; it is recommended that the disc minimum position is 25mm from the ground.

### 4.3.2 Automatic

Rotating the support wheel handle can lower the support wheel and raise the grinding device from the working area. It is recommended that the lowest position of the grinding disc be 25mm above the ground

- Adjusting the handle and swing lever to working position, and additional weight to transport position. (The specific adjustment actions of each component are described above. The adjusted machine is shown below.
- Locking the clutch device: When the machine starts working,, unscrew the clutch device, then pull out the clutch pin and rotate the clutch pin sleeve, and embed the clutch pin in the inhibiting device of the clutch pin sleeve to tighten the clutch device.
- Turn on the emergency stop on the swing lever control panel;
- Press the button of drive wheel on the electric control box, adjusting the drive wheel speed to more than 30.
- Using the forward and backward switch to transport.



**Note:**

- The emergency stop switch should be screwed or pressed, and cannot be pulled. The manufacturer does not compensate for any loss caused by improper operation.
- Take out the grinding pads to prevent it drops and lost before transport, resulting in unnecessary losses.
- During the operation, you must pay attention to the electric quantity of the reserve battery.
- Be extremely careful when polishing or transport on slopes (up to 17° slope).
- If it is a steep slope, must use a winch. Do not stand behind the machine.
- Before walking on the slope, make sure the battery power is more than 40%, the clutch is in the locked state, and the AC input voltage is higher than 350v.
- Moving down in slope, the machine should be driven slowly in the reverse direction.
- Moving up in slope, the machine should be driven slowly in the forward direction.

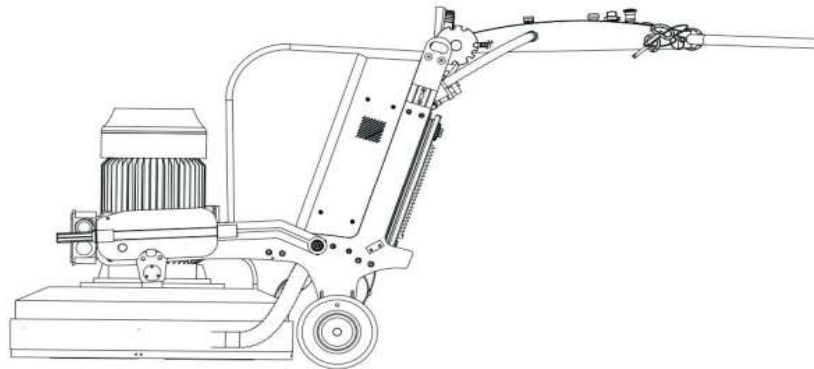
### 4.3.3 Transportation and storage

1. It must be careful to move a machine in manual mode or on the slope. Even a small slope can create large forces. In this case, user can't hold the machine by hand.
2. The machine should not be lifted with the handles, motors, frames or other parts. It is best to transport the machine which is tightly held on the pallet/slide.
3. If there is no a crane or forklift never try to lift the machine.
4. If the machine is not parked on a pallet or bracket, do not use a forklift truck to lift below the planetary grinding head. Such behaviour may cause irreparable damage to the machine's discs and other internal components.
5. During transportation, please fix the machine firmly to avoid damage or accidents.
6. During transportation, the grinding device should touch the ground and a tool plate should be always installed to protect the locking mechanism.
7. Please store the machine in a lockable, keeping out of the reach of children.

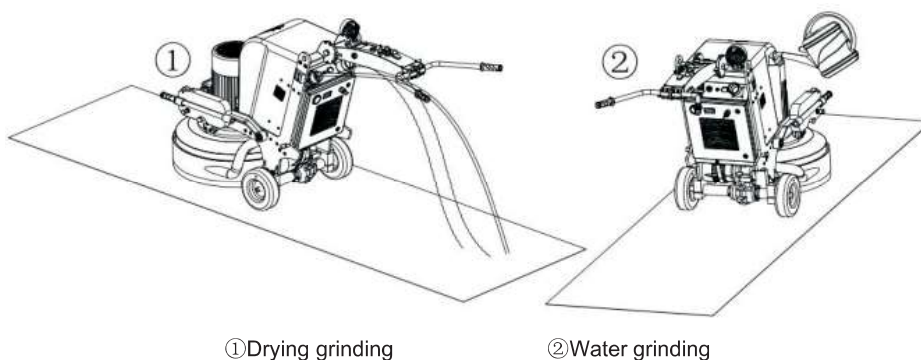
### 4.4 Start and stop the grinder

#### 1. Start the grinder

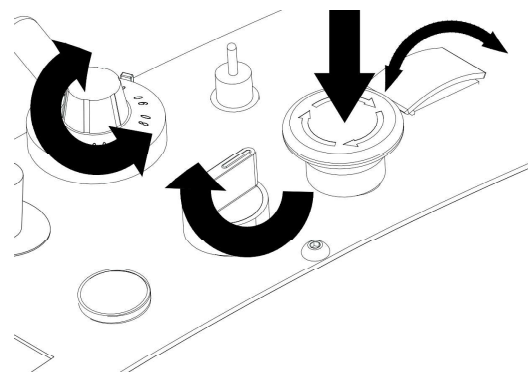
(1) Firstly adjust swing lever, handle and additional weight to the corresponding working position, place the supporting wheel device in the lowest position and invert it or disassemble it (as shown in the figure below).



(2) Lock the clutch pin (unlock the clutch pin if in the manual mode), plug in the power cord (ensure that the emergency stop is pressed down and the switches are reset); if the machine using for dry grinding, connect the vacuum cleaner (vacuum cleaner is equipped with a quick connector, so it can quickly connect to the vacuum cleaner); if the machine using for wet grinding, it's necessary to fill the water tank with water.



(3) Turn on the emergency stop switch, rotate the speed regulator to adjust the rotation speed of the motor, turn the switch to the left to rotate the motor forward (rotate to the right to reverse the motor) (turn on the water switch before water grinding)





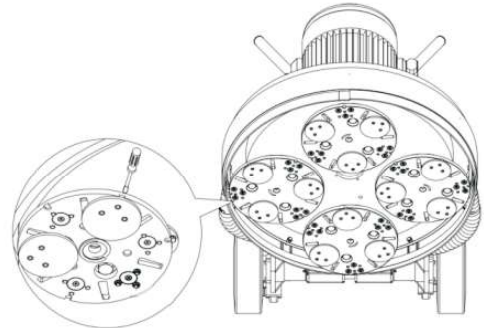
2. Stop machine: press the emergency stop switch and unplug the power to stop the machine (remember to reset the speed regulator).

**Note:**

When stopping the machine, it is recommended to unplug the power supply for safety reasons. The emergency stop switch can only be rotated and pressed down according to the direction shows on its top, and cannot be pulled up.

### 4.5 Replace abrasives

When changing the grinding disc, adjust machine to the lifting position, then tip the machine carefully and lay the machine flat. After leveling the machine, stand next to the machine and check whether the machine is stable. Change the polishing pads with a flat-blade screwdriver and replace it with a new one.



**Note:**

1. Please ensure that the machine won't tip forward before replacing the abrasive;
2. After the machine has been running for a period of time, the abrasive, grinding disc and the gear box will generate high temperature. Be careful to be burn when you replace the abrasive.
3. Replace the abrasive only when the power is unplugged and the emergency stop is pressed.

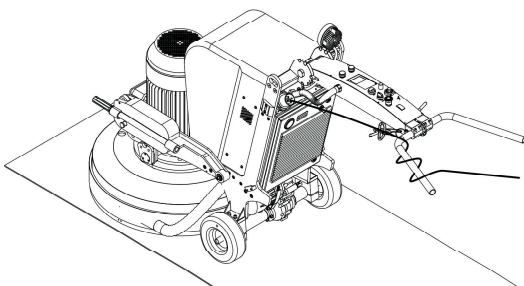
### 4.6 The wire winding

During machine working process, the wire wind method is particularly important, you can greatly improve your work efficiency and improve your safety. The specific operation is as follows:

1. Plug in an external power supply;
2. Turn the power cord through the swing lever handle;
3. The power cord wrapped around the handle at least two laps;
4. Slightly hard to pull the power cord to ensure that the power cord has enough friction so that the power cord firmly fixed on the handle.

**Note:**

1. Make sure the power plug and socket are securely connected;
2. Please make sure the emergency stop has been pressed before plug the power supply, and the other switch has been reset;
3. Power supply line, please use (please find in Manual) wire minimum wire size;
4. Please use the correct power supply.



**Note:**

The machine model of the above picture can be ignored, the grinding route and winding method are for reference only.

### 4.7 Optimal grinding route

When grinding the ground, it should be in accordance with the # method to grind the ground to get better effect. And according to # to grind ground, the machine grinding direction makes the wire more and more farther away, so that you can further avoid the interference of the wire to the normal work of the grinding machine.

