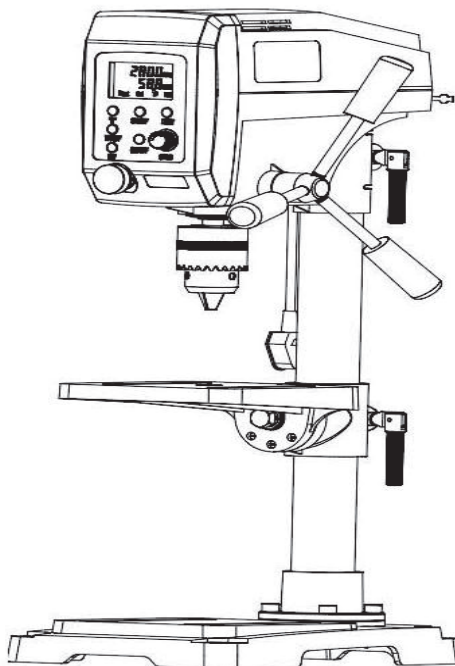


User manual and safety instructions

Save this manual for safety warnings and precautions, assembly, operation, inspection, maintenance and cleaning procedures. Write the serial number of the product on the back of the manual. Keep this manual and receipt in a safe and dry place for future reference. When unpacking, check whether the package is intact. If any parts are lost or damaged after unpacking, please call the dealer's after-sales service phone as soon as possible.

Z13A multi-function drilling and tapping machine



General Power Tool Safety Warnings

1. Work area safety

- a) Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
- b) Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Power tools create sparks which may ignite the dust or fumes.
- c) Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

2. Electrical safety

- a) Power tool plugs must match the outlet. Never modify the plug in any way.** Do not use any adapter plugs with earthed (grounded) power tools. Unmodified plugs and matching outlets will reduce risk of electric shock.
- b) Avoid body contact with earthed or grounded surfaces, such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.
- c) Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- d) Do not abuse the cord.** Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.
- e) When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.
- f) If operating 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.

3. Personal safety

- a) Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating power tools may result in serious personal injury.
- b) Use personal protective equipment. Always wear eye protection.** Protective equipment such as dust mask, nonskid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
- c) Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/ or battery pack, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energizing power tools that have the switch on invites accidents.
- d) Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- e) Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- f) Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts.** Loose clothes, jewelry or long hair can be caught in moving parts.

g) If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used. Use of dust collection can reduce dust related hazards.

h) Do not allow the confidence gained from frequent use of tools to cause you to ignore general safety principles. One careless action can result in serious injury in a fraction of a second.

i) Keep handles and gripping surfaces dry, clean and free of oil and grease. Slippery handles and gripping surfaces do not allow a secure grip and control of the tool in unexpected situations.

4. Power tool use and care

a) Do not force the power tool. Use the correct power tool for your application. The correct power tool will do the job better and safer at the rate for which it was designed.

b) Do not use the power tool if the switch does not turn it on and off. Any power tool that cannot be controlled with the switch is dangerous and must be repaired.

c) Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools.

Such preventive safety measures reduce the risk of starting the power tool accidentally.

d) Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool. Power tools are dangerous in the hands of untrained users.

e) Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use. Many accidents are caused by poorly maintained power tools.

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

g) Use the power tool, accessories and tool bits etc. in accordance with these instructions, 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.

Specific safety instructions

This machine is a new machine with multiple patents, please read all safety warnings and instructions carefully.

Failure to comply with warnings and instructions may result in electric shock, fire and serious injury.

Warning:

1. Keep the protective device in place and in working condition.
2. Drill chuck lock key must be removed from the machine before starting.
3. Keep the work area clean (messy areas and improper items will cause accidents)
4. Do not use machine tools in dangerous environments. (Moisture, dust, rain, dark light, etc.)
5. All visitors should maintain a safe distance from the work area, the main switch should be cut off during the shutdown. Keep children away from the machine and away from the work area.
6. Read the instructions in detail, do not force the machine or use accessories to do work beyond its design scope.
7. Use the appropriate extension cable, ensure that the extension cable is in good condition. When using an extension cord, be sure to use an extension cord of sufficient capacity to carry the current required by the product. Undersized wires can cause line voltage to drop, which can lead to power loss and overheating)
8. Wear suitable tooling, do not wear loose clothes to operate the machine tool. (Do not wear gloves, ties, rings, bracelets, or other items that may get caught in moving parts.) Wear a protective work cap to cover long hair, and non-slip shoes are recommended when operating the machine.
9. Always wear safety glasses with anti-impact lenses. If there is dust during the cutting operation, wear a mask or dust mask to protect it.
10. Fix the workpiece. Use a fixture or pliers to fix the workpiece, do not fix the workpiece by hand, fixing the workpiece by hand will cause injury.
11. Pay attention to the size of the workbench, such as the size of the workpiece is greater than the size of the workbench, the application of fixture fixed to ensure that the workpiece balance and stability do not expand the scope of the working face.
12. Maintain the machine carefully. Keep the tool sharp and clean for the best and safest machining performance. Follow the instructions for lubrication and replacement of accessories.
13. Reduce unintended risks. Make sure the switch is in the off position before plugging in the power supply.
14. Use original parts, please refer to the user manual. Improper use of accessories may cause personal injury.
15. Any part of the body should not enter the work area when machine start. If the tool is tilted or inadvertently comes into contact with the cutting tool, serious injury may occur.
16. Non-professionals should not open the chassis to prevent improper operation from damaging the machine tool or causing injury.
17. Do not let the machine run unattended. (The machine has two switches. After the machine drive switch is off, the main switch must be turned off to cut off the power supply of the

machine. Do not leave until the main power is cut off.)

The drill is designed for drilling holes into wood, iron, nonferrous metals, plastic and rock using the appropriate bits.

Grounding specification

Prevent electric shock and death due to improper grounding wire connection.

Read and follow these instructions:

1. In the event of failure or breakdown, grounding provides a path of least resistance for current to reduce the risk of electric shock. The machine is equipped with a wire that has a device grounding conductor and a grounding plug. The plug must be plugged into a matching outlet, which should be properly installed and grounded in accordance with all local codes and regulations.
2. Do not modify the provided plug - if the plug does not fit the socket, please have a qualified electrician install a suitable socket. Improper connection of the ground conductor may lead to the risk of electric shock. The yellow and green conductor on the outer surface of the insulation layer is the ground conductor of the device. If the wire or plug needs to be repaired or replaced, do not connect the device ground lead to the live terminal.

If you do not fully understand the grounding instructions or are in doubt about whether the tool is properly grounded, check with a qualified electrician or service worker.

3. Only a grounded three-core plug and a matching and grounded three-core socket can be used, otherwise there is a risk of electric shock.
4. The socket must use safety certified products, in accordance with all codes and regulations properly installed and grounded.
5. Do not use the adapter to connect this tool to other outlets.

Multi-function drilling machine safety warning

This machine has two functions of drilling and tapping. For your own safety, please read the instructions carefully before operating the drill machine.

1. Wear goggles.
2. Do not wear gloves, ties, necklaces and loose clothes.
3. The workpiece is reliably fixed on the workbench to prevent rotation and movement.
4. When drilling, tapping operation, use the recommended speed corresponding to the workpiece material.
5. It is forbidden to operate the machine when the protective device is disabled, damaged or removed.
6. The use of non-original parts or components may lead to injury; maintenance can only use original parts.
7. Only safety equipment (including protective equipment) approved by relevant standards bodies can be used.
8. When you feel tired or under the influence of alcohol and drugs, do not use the machine tool. People using pacemakers should not use machine tools to avoid interference or pacemaker failure caused by changes in the surrounding magnetic field.
9. The machine tool has slight vibration when drilling or tapping, with appropriate force operation can reduce the vibration of the human body, pregnant women, hand blood

circulation or nervous system damage, diabetes patients, patients with Raynaud's disease should not use the machine.

10. When using the machine, do not smoke (nicotine will reduce the blood supply to the hand, smoke oil will affect the normal work of the electronic components of the control system and lead to failure)

11. Maintenance tools' label and nameplate, these carry important safety information.

12. Avoid accidental start.

The warnings, precautions, and instructions discussed in this manual cannot cover all possible scenarios. The operator must have general knowledge of drill machine operation and electrical safety, and caution is a basic requirement for machine operation.

Specification parameters of multi-function drilling machine

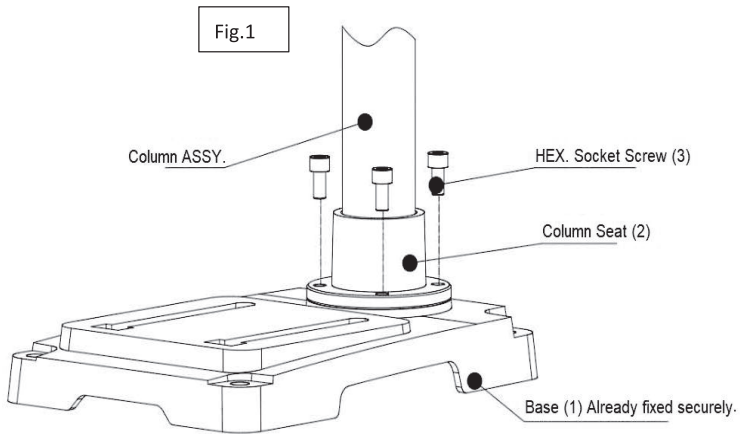
| | | |
|------------------------------------|-----------------|------------|
| Voltage & Frequency | 120V /60Hz | |
| Power | 1hp | |
| Drilling speed | 600 — 3000 RPM | |
| Tapping speed | 400 — 800 RPM | |
| Max. drilling dia. | Ø13mm (steel) | Ø32 (wood) |
| Max. tapping dia. | M10 (cast iron) | M8 (steel) |
| Chuck size | Ø1.5 — Ø13mm | |
| Throat Depth | 120mm | |
| Max. travel of spindle | 60mm | |
| Arbor taper | JT33 | |
| Intermediate table size | 170X170mm | |
| Intermediate table range of motion | ±45° / 360° | |
| Base size | 320X215mm | |
| Column dia. | Ø48mm | |
| Net weight | 15.38KGS | |

Assembling

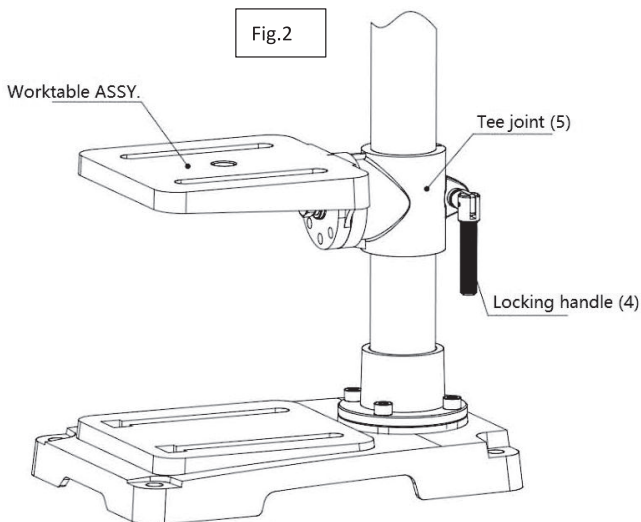
Before assembly, the base is bolted to a flat, level, sturdy workbench capable of supporting the weight of the drill press and the workpiece. Before drilling or driving screws, verify that there are no hidden utility lines under the installation location.

Fit out

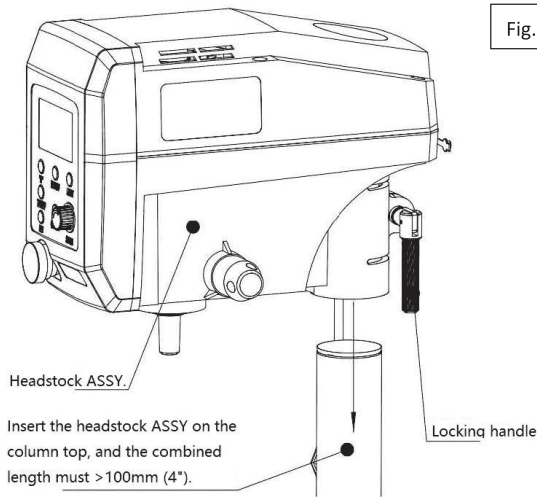
Align the four holes in the column seat (2) of the column assembly with the holes in the base (1), and secure the column assembly to the base using four M8X16 hex socket screws (3). Apply diagonal force to tighten the screws to ensure the reliability of surface contact. (See Figure 1)



Insert the tee joint (5) of the middle worktable assembly into the column, align it with the base, and tighten the locking handle (4) in the appropriate position to ensure that the middle workbench assembly is reliably fixed on the column. (See Figure 2)

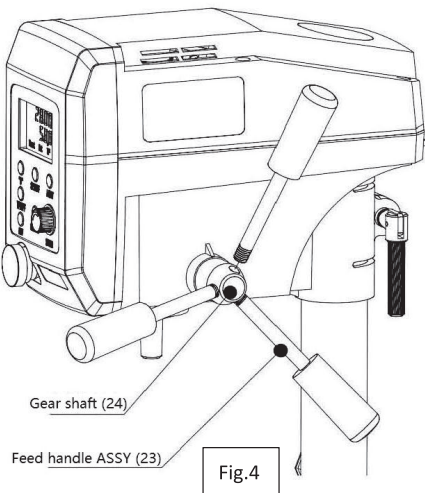


With the help of the assistant, gently insert the headstock assembly on the column top. Please note that the minimum insertion depth is greater than 100mm (4"), which is lower than the safety scale of the column. The headstock assembly can be moved up and down on the column according to the processing needs. However, the combined length of the column and the machine box should not be less than 100mm (4"), which should not exceed the safety scale line, otherwise there will be safety risks. (See Figure 3)

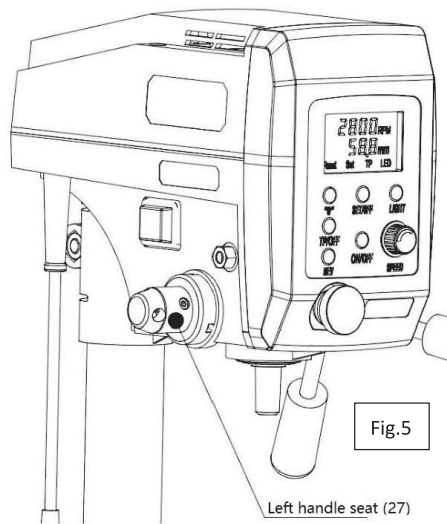


The machine has a left and right handle installation position, according to the operator's habit to select the assembly of the feed handle assembly (23).

Figure 4 is the right hand operation installation diagram: Screw the threads at the front of the 3 feed handle assemblies (23) to align with the screw holes on the gear shaft (24) one by one to secure reliably. Please note that a sliding handle can cause injury to the operator.

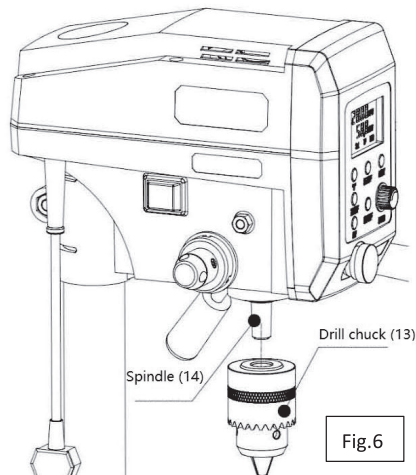


The position of the left handle seat (27) is shown in Figure 5. The installation method and precautions are the same as above.



The drill chuck (13) should be carefully cleaned before installation of the spindle (14) and drill chuck mating surface, to remove the surface of oil, grease and protective layer, to ensure that the drill chuck hole and spindle mating surface dry without burr.

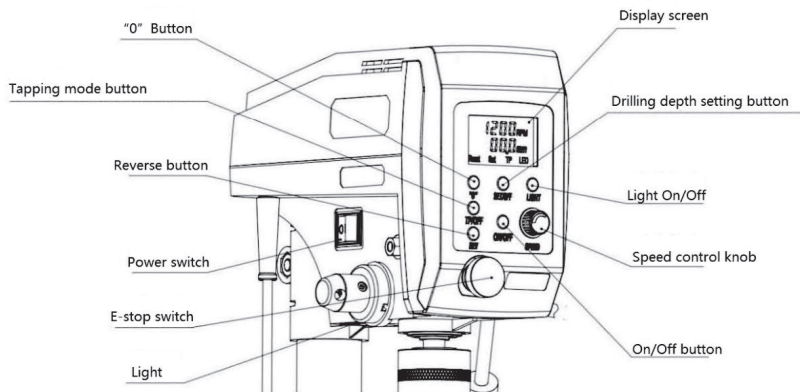
Insert the drill chuck into the spindle and strike the front end of the drill chuck with a rubber mallet to ensure that the drill chuck is properly positioned and firmly attached to the spindle. (See Figure 6)



Machine tool operation and control

This product is a brushless motor direct drive multi-function drilling machine with overload protection and temperature protection. It has the functions of stepless speed regulation, drilling, tapping and depth setting. Please read this section carefully before setting and using this product. Disoperation may cause harm to the operator or the machine.

1. Machine tool function and control setting.



1.1. The machine uses a double switch to start the machine. After the power cord is connected to the power supply, the power switch is turned on, the lighting is turned on, and the display screen is started. The display speed is 0000RPM and the drilling depth is 00.0mm. If the drill depth display is not 0, press the "0" button to display 00.0mm. At this time, even if the drill press is not working, rotate the feed handle, the drill bit displacement distance will still be displayed.

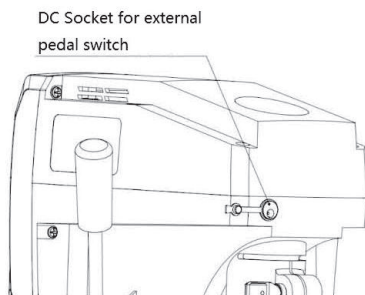
1.2. Mode setting and switching. After the display is normal, press the start button, that is, enter the drilling mode, then set the speed to 600rpm, as required, turn the speed control knob, you can select the required speed from 600-3000rpm. If you need to enter the tapping mode, press the tapping set/release button, and the system enters the tapping mode. At this time, the displayed speed is within the range of 400-800rpm. According to the diameter of the thread, rotate the speed control knob to select the required speed between 400-800rpm. Press the tap set/release button again to enter the drilling mode.

1.3. Depth setting. When a hole of the same depth needs to be drilled on the same working face, first move the drill bit to the working face, and then press the zero button. At this time, the value displayed is zero. When the feed handle is released, the display screen will appear negative. Press the start button to start drilling. When the required depth is drilled, press the set/release button of drilling depth, that is, the depth setting is complete. After each drilling, when the distance from the set depth is 4mm, the lighting light begins to blink, as the depth approaches the set value, the light flickers from slow to fast, reaching the depth set value, the light stops blinking. If the depth setting/lifting button is pressed again, the setting is lifted. It should be reminded that the depth display still needs to press the return to zero button, and the display depth display can be returned to zero.

1.4. Reverse button. When the drilling (or tapping) is stuck in the hole for different reasons, the control system will stop due to instantaneous overload. At this time, click the reverse button, the drill (or tap) will reverse out of the trap, but you must press the start button again, the machine can resume work.

1.5. Emergency stop switch. In case of sudden abnormal working state, the emergency stop switch should be pressed immediately. Under the action of the emergency stop switch, the machine tool immediately stops working and cannot be started again. After the emergency stop switch is reset, the machine tool can start and work normally.

1.6. Forward and reverse tapping control. In the tapping mode of this machine tool, it is necessary to connect an external reversing switch to control the advance and retreat of the tapping tool. There is a two-phase jack on the right rear of the headstock, and the machine provides 5V DC power to the switch and accepts the forward and reverse signals.



1.7. Lighting button. Press the light button to turn the light off/on

2. Drilling, tapping speed setting suggestions

2.1. when the workpiece is reliably fixed on the workbench, according to the workpiece material is different, the drilling speed is recommended as follows:

| Rotate speed range (rpm) | Wood Drill dia. | | Alum., brass Drill dia. | | Iron, steel Drill dia. | |
|-----------------------------|--------------------|-------|----------------------------|------|---------------------------|------|
| | in | mm | in | mm | in | mm |
| 2000-3000 | 3/8 | 9.5 | 7/32 | 5.6 | 3/32 | 2.4 |
| 1500-2000 | 5/8 | 16 | 11/32 | 8.75 | 5/32 | 4 |
| 1000-1500 | 7/8 | 22 | 15/32 | 12 | 1/4 | 6.4 |
| 800-1000 | 1-1/4 | 31.75 | 11/16 | 17.5 | 3/8 | 9.5 |
| 600-800 | 1-5/8 | 41.4 | 3/4 | 19 | 1/2 | 12.7 |

Safety warning: Wear goggles, dust mask and open the dust suction device when processing wood.

2.2. When the workpiece is reliably fixed on the workbench, the tapping speed is recommended as follows:

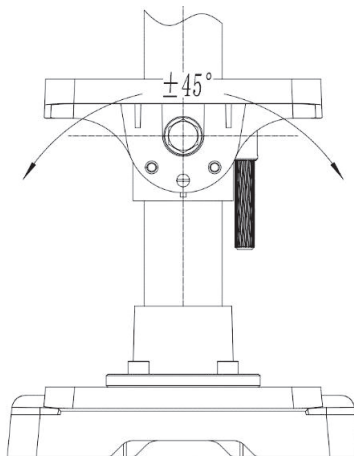
| Rotate speed range (rpm) | Alum. | | Cast iron | | Steel | |
|--------------------------|-------|-----|-----------|-----|-------|----|
| | in | mm | in | mm | in | mm |
| 600-800 | 1/4 | M6 | No.12 | M5 | No.12 | M5 |
| 500-600 | 3/8 | M10 | 5/16 | M8 | 1/4 | M6 |
| 400-500 | 1/2 | M12 | 3/8 | M10 | 5/16 | M8 |

3. The adjustment of the middle table and the use of the base table surface

3.1. Safety warning: The power supply of the whole machine must be cut off before adjusting the middle workbench, and the plug must be unplugged from the socket.

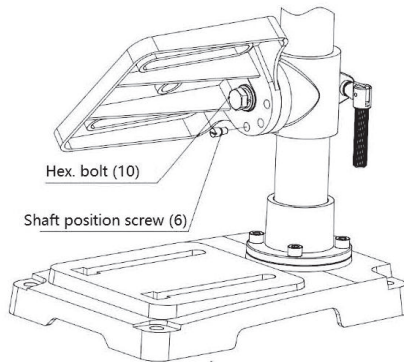
3.2 The middle table of the machine can be tilted around 45° and rotated around the column 360° . However, no matter what kind of adjustment and positioning method, the locking handle must be tightened after adjustment to ensure the reliable positioning of the middle table on the column.

3.3 Tilt adjustment method at about 45° : screw out the shaft position screw (6), loosen the hex bolt (10), so that the table can rotate around the axis. Align the 45° Angle hole with the fixing hole, insert the shaft screw (6), and finally forcefully lock the hexagon bolt (10).



3.4, if the processing of large workpiece, need to use the base table to support the workpiece, need to rotate the middle table to the back of the machine tool and reliably fixed. The workpiece is supported by the base workbench, and the fixture or tooling is reliably fixed to avoid damage.

3.5, after the adjustment of the machine tool, it is necessary to check the reliability of each part, and after meeting the operating conditions, it can be powered on.



4. Cleaning, maintenance

4.1. The machine tool should be checked before use: loose screws, cracked parts, plug cable is damaged. Special warning: Cable and plug damage, will cause serious personal injury! If the power cord of this machine is damaged, it must be replaced by a qualified service technician.

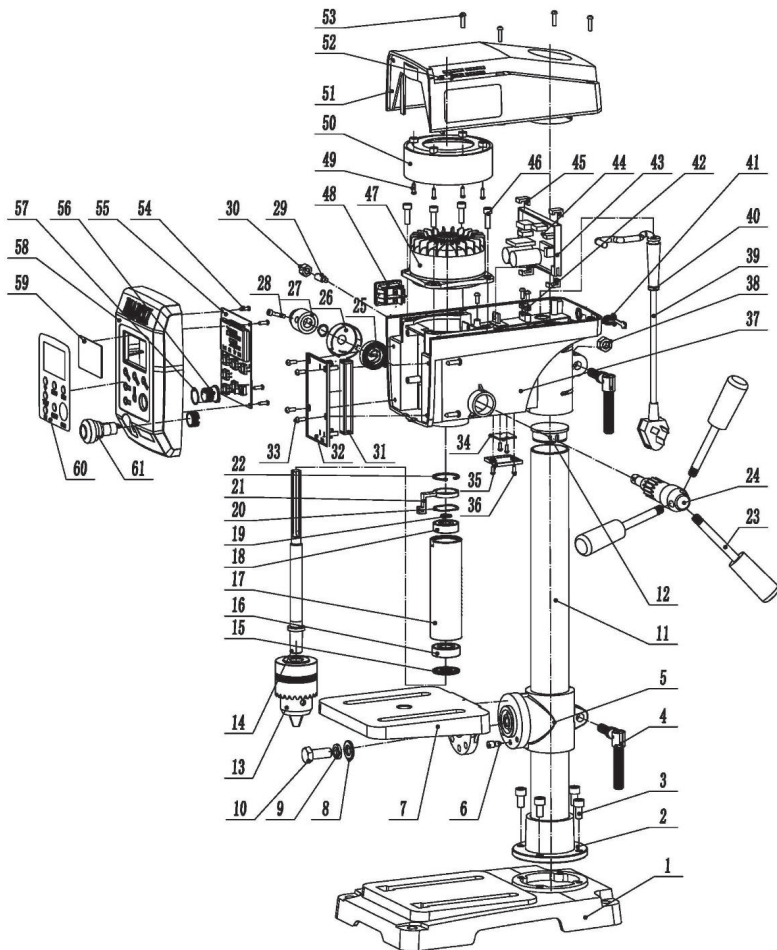
4.2. After use, the power supply should be cut off, the debris should be cleaned, and the surface of the machine should be wiped clean with a clean cloth.

4.3. Clean the outer surface of the sleeve regularly. After cutting off the power supply, use the feed handle to lower the sleeve to the lowest point, wipe the oil on the outer surface of the sleeve, and apply lubricating oil.

5. Problems and solutions

| Fault | Possible reasons | Solution |
|-------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The display does not display after the power switch is turned on | 1, the wire is not connected or the socket has no power 2. Internal damage | 1, check the socket, connect the power; 2, by professional maintenance |
| Machine tool cannot start | 1. The emergency stop switch is not reset after use 2. The drilling machine is in the self-protection period 3, line voltage is too low 4. Internal damage | 1. Reset the emergency stop switch; 2, wait 2 minutes and then start; 3, the power supply socket wire is too long and too thin; 4, by professional maintenance. |
| Abnormal machine stop | 1, the processing scope has exceeded the capacity 2. Serious drill wear 3. High temperature 4. Internal damage | 1, according to the processing scope of the manual processing 2, replace the drill; 3, the voltage is too low, keep clean; 4, by professional maintenance |
| Any repair must be carried out after the power is cut off. | | |

Parts Diagram



Parts List

| NO. | DWG # | DESCRIPTION | QTY |
|-----|---------------------|-------------------------------|-----|
| 1 | Z13A3-02-01-1828 | Base | 1 |
| 2 | Z13A3-02-01-9548 | Column seat | 1 |
| 3 | GB/T70 M8*16 | Hexagon socket screw | 4 |
| 4 | Z13A2-02-01-1030 | Adjustable locking handle | 2 |
| 5 | Z13A3-02-01-4840 | T-joint | 1 |
| 6 | GB/T831 M6*16 | Axial snail | 1 |
| 7 | Z13A3-02-01-1717 | Work table | 1 |
| 8 | GB/T97.1 D12 | Flat washer | 1 |
| 9 | GB/T93 D12 | Spring washer | 1 |
| 10 | GB/T5782 M12*28 8.8 | Hexagon bolt | 1 |
| 11 | Z13A3-02-01-0530 | Column | 1 |
| 12 | Z13A3-03-01-4347 | Column cover | 1 |
| 13 | J2213B | Drill chuck | 1 |
| 14 | Z13B3-02-01-0248 | Spindle | 1 |
| 15 | Z13B3-03-04-3401 | Waterproof tray | 1 |
| 16 | GB/T276 6202-2RZ | Deep groove ball bearing | 1 |
| 17 | Z13B3-02-01-1340 | Sleeve | 1 |
| 18 | GB/T276 6201-2R | Deep groove ball bearing | 1 |
| 19 | GB/T894.2 D12 | Shaft retaining ring | 2 |
| 20 | JB7590 D32 | Three peaks corrugated washer | 1 |
| 21 | Z13B3-03-01-3239 | Shift block | 1 |
| 22 | GB/T893.1 D32 | Retaining ring | 1 |
| 23 | Z13A2-10-10-0120 | Handle assembly | 3 |
| 24 | Z13B3-02-01-1515 | Gear shaft | 1 |
| 25 | Z13A3-01-04-0707 | Torsional spring | 1 |
| 26 | Z13A3-01-04-4315 | Spring box | 1 |
| 27 | Z13A3-02-01-2833 | Left-hand handle seat | 1 |
| 28 | GB/T70.1 M4*20 | Hexagon socket screw | 1 |
| 29 | GB/T75 M8*20 | Slotted set screw | 1 |
| 30 | GB/T41 M8 | Class C type 1 hexagon nut | 1 |
| 31 | Z13A2-06-06-9570 | Displacement sensor | 1 |
| 32 | Z13A3-03-04-0109 | Sensor rack | 1 |
| 33 | GB/T823 M4*10 | Cross pan head screws | 7 |
| 34 | Z13A2-06-05-0003 | Lighting assembly | 1 |
| 35 | Z13A3-03-01-3636 | Lens plate | 1 |
| 36 | GB/T823 M3*6 | Cross pan head screws | 4 |
| 37 | Z13A2-40-48-0144 | Spindle box | 1 |
| 38 | GB/T6170 M10 | Hexagon nut | 1 |
| 39 | Z13A2-04-04-1200 | Cable | 1 |
| 40 | CGN300A-08 | bushing | 1 |

| NO. | DWG # | DESCRIPTION | QTY |
|-----|-----------|-------------|-----|
| 41 | | DC socket | 1 |
| 42 | CDM08A-48 | <div></div> | |