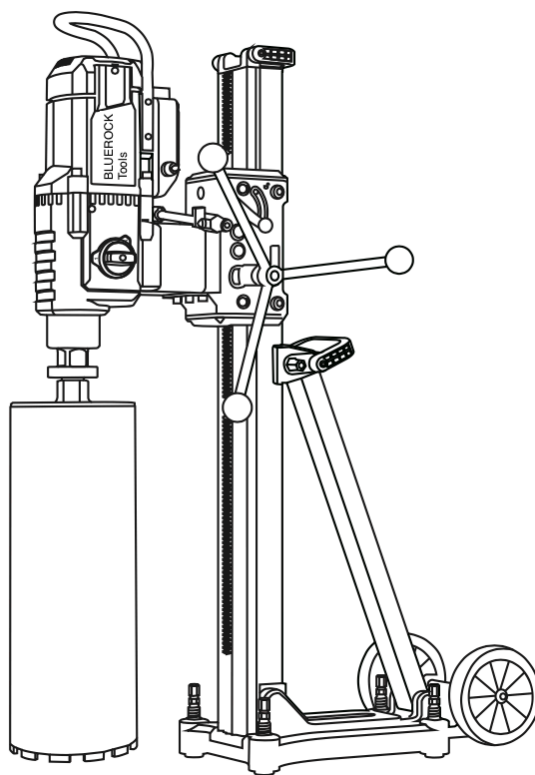


Volume

1.0

OPERATIONAL MANUAL

**MODEL: 25Z1 CORE DRILLING MACHINE WITH
LONG MAST TILTING STAND / ROLLING BASE**



by BLUE ROCK ® Tools



UNPACKING THE ITEM

CAUTION: This machine is packed together with items that may be sharp, oily and overly heavy objects. Remove the machine from the packaging in a safe manner. Check to ensure all accessories are included with the item while unpacking. If any parts are found to be missing, contact the retailer as soon as possible. Do not throw away the packaging until the item is out of the guarantee period. Dispose of the packaging in an environmentally responsible manner. Recycle if possible. Keep all plastic bags away from children due to risk of suffocation.



WEEE - Waste Electrical & Electronic Equipment. Note this machine should be disposed of as electrical & electronic waste.

SLURRY DISPOSAL

NOTE: It is recommended to dispose of the drilling slurry (the muddy/dusty water material) in an environmentally responsible manner. The disposal of slurry directly into sewage systems, sewers, lakes, rivers, or direct earth without treatment can be environmentally harmful and possibly illegal. Ask your local public authorities about current regulations in your area.

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Safety

DO NOT USE THIS MACHINE UNLESS YOU HAVE READ THE OPERATING INSTRUCTIONS!



Safety glasses must be worn at all times in work areas.



Appropriate footwear must be worn.



Safety gloves should be worn at all times and jewelry must not be worn.



Hard-hat must be worn while using machine.



Read operational manual prior to use.



Long and loose hair must be contained.



Close fitting/protective clothing must be worn.



Hearing protection should be worn when using this machine.



Dust mask must be worn while using this machine.

PRE-OPERATIONAL SAFETY CHECKS

- Examine the power cord and plug for damage. This tool is supplied with a ground plug and must always be used with a properly grounded circuit.
- Examine the body of the machine and inspect for damage or defects.

OPERATIONAL SAFETY CHECKS

- ONLY to be operated by qualified personal who have read instructions.
 - NOTE: Failure to read and follow instructions could result in electrical shock, fire, property damage and/or serious injury!
- DO ensure all non-essential people are clear of the immediate work area.
- DO be attentive at all times. Keep your eye on the work piece. Always be in a sensible state of mind and do not use the machine if you cannot fully concentrate.
- DO keep body parts, clothing & power cords clear of turning/cutting pieces. Stay alert and use common sense when using this tool.
- DO allow machine to reach operating speed before starting a hole.

2521 CORE DRILL

➤	DO unplug machine while changing or adjusting cutting bits so as not to accidentally turn machine on.
➤	DO remove adjusting wrenches prior to turning the machine on.
➤	DO guard against electric shock by only operating this tool on a properly functioning GFCI (Ground Fault Circuit Interrupt) circuit.
➤	DO be mindful that power tools can expose an operator to vibrations transmitted through contact with the machine. Prolonged exposure can lead to medical issues which should be discussed with a medical professional.
➤	DO tie in a drip loop in the power cord to prevent water from running into the power receptacle.
➤	DO use a dust extraction system for cutting materials that create dust. The operator should also wear a protective respiratory device.
➤	DO NOT make adjustments to machine while the machine is running.
➤	DO NOT switch off the machine when it is under load, except in an emergency.
➤	DO NOT remove or modify grounding plug. Only to be used on a properly grounded GFCI circuit.
➤	DO NOT leave the machine running when not in use.
➤	DO NOT hold the work piece by hand or using body. Always mechanically clamp or secure work piece.
➤	DO NOT allow operator to make contact with grounded surfaces such as metal objects.
➤	DO NOT allow liquids to enter the machine's ventilation system.
➤	DO NOT operate machine outside of machine specifications.
➤	DO NOT touch moving parts while the machine is running as death or dismemberment could occur.
➤	DO NOT operate machine overhead (Inverted) when drilling "wet" type cores.
➤	DO NOT remove machines electrical components while connected to a power source. Only to be removed for service by qualified personal and put back on the machine after service is complete.
➤	DO NOT allow children or untrained personal to operate machine.
➤	DO NOT use this machine in the rain or a wet environment.
➤	DO NOT operate in the presence of explosive materials as power tools create sparks which may ignite dust or fumes.
➤	DO NOT drill into an area that may contain a live electrical wire/circuit.
➤	DO NOT use this machine without safely securing to the work piece being drilled.
➤	DO NOT use full water pressure when drilling with "wet" type bits! You only need minimal water to drill with these machines. Extreme water pressure can cause water to enter the gearbox!
➤	DO NOT operate this machine on a lower voltage as it may result in reduced power level and the machine could become unstable while cutting. This could also limit the motor life.

- NOTE: Use of long small gauge power extension cords can result in decreased voltage. As local voltages can vary, it may be a good idea to test the voltage at the end of the extension cord to ensure proper voltage requirements are met. You might also consult an electrician to make sure the length of cord matches up with the proper wire gauge for this size motor. Make sure to use outdoor cords when operating outdoors.

HEALTH WARNINGS

- Certain dust created by drilling contains chemicals known to cause cancer, birth defects or other reproductive harm. The examples of these chemicals are below:
 - Lead from lead based paint.
 - Crystalline silica from bricks, cement and assorted masonry products.
- TO REDUCE RISK OF EXPOSURE TO THESE CHEMICALS, WORK IN A WELL VENTILATED AREA WITH VACUUM SYSTEMS, RESPIRATORS AND WITH ALL SUITABLE SAFETY EQUIPMENT.

Specifications

ELECTRICAL DATA	
Voltage	230V, 60Hz, Single Phase
Motor Size	5000W
Power Connection	NEMA L6-30P 250V 3 Prong Twist Lock Plug

MECHANICAL DATA	
Cutter Range	1" to 25" Max Diameter
Cutting Speed	230/370 RPM Two Speed Gearbox Gear 2 (370 rpm) for 1"-15" Holes Gear 1 (230 rpm) for 16"-25" Holes
Tool Holder	Direct Arbor 1-1/4" 7 UNC Spindle
Safety Clutch	Yes
Water hose and Valve	Yes
Rolling/Tilting Base	Yes
Travel	45"

SHIPPING DATA	
Shipping Weight	2 Boxes; 84lbs Stand and 63Lbs Motor
Shipping Carton	66" x 12" x 18" Stand / 10" x 26" x 20" Motor

Included Accessories

DESCRIPTION	QTY
Instruction Manual	1
Standard Wrenches	3
Feed Handle	1
Water Hose and Valve	1
Hex Wrenches	2
Motor Carrying Case	1

Note

UPON RECEIPT, CHECK CAREFULLY TO ENSURE THAT THE MACHINE IS IN GOOD CONDITION AND HAS ALL ACCESSORIES LISTED ABOVE.

Additional Available Accessories

Additional accessories for this machine can be found in BLUEROCK® Tools online shop at www.bluerocktools.com or from your local retailer.

DESCRIPTION
1" Wet Coring Bit
1.25" Wet Coring Bit
1.5" Wet Coring Bit
1.75" Wet Coring Bit
2" Wet Coring Bit
2.5" Wet Coring Bit
3" Wet Coring Bit
3.5" Wet Coring Bit
4" Wet Coring Bit
4.5" Wet Coring Bit
5" Wet Coring Bit
6" Wet Coring Bit
7" Wet Coring Bit
8" Wet Coring Bit
9" Wet Coring Bit
10" Wet Coring Bit
11" Wet Coring Bit
12" Wet Coring Bit
14" Wet Coring Bit
16" Wet Coring Bit
18" Wet Coring Bit
20" Wet Coring Bit
22" Wet Coring Bit
24" Wet Coring Bit
1" Dry Coring Bit
1.25" Dry Coring Bit
1.5" Dry Coring Bit
1.75" Dry Coring Bit
2" Dry Coring Bit
2.5" Dry Coring Bit
2.75" Dry Coring Bit
3" Dry Coring Bit
3.5" Dry Coring Bit
4" Dry Coring Bit
5" Dry Coring Bit

Operations

Note

THOROUGHLY READ THROUGH THE ENTIRE MANUAL BEFORE OPERATING THIS MACHINE!

PURPOSE

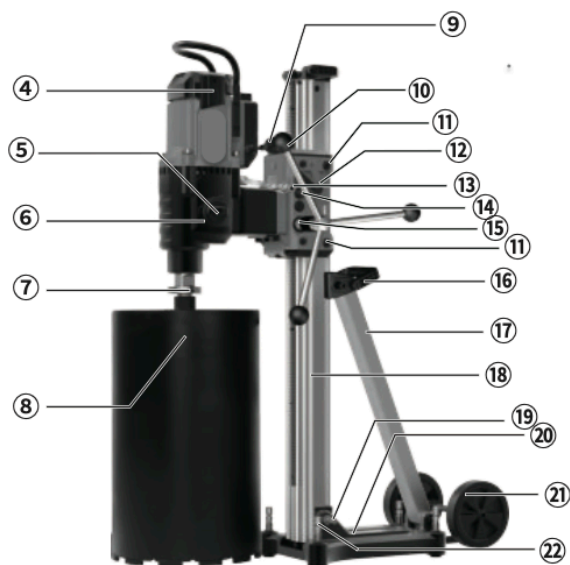
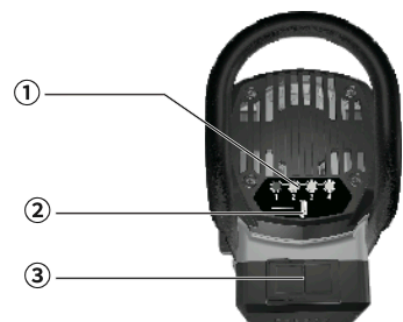
- The purpose of the 25Z1 Core Drill is to drill through masonry, concrete or other mineral rock types using annular coring bits.
- These drills are designed to be bolted to the drilling surface through their base.
 - NOTE: Make sure the base fits completely on the surface and the base is securely fastened using wedge anchors to bolt to the surface.
- These machines can be used vertically, horizontally or overhead (inverted) provided an acceptable work environment. NOTE: For safety, when drilling horizontally or overhead a safety chain/strap should always be used.
 - CAUTION: If drilling overhead you are only permitted to use dry type core bits with a dust collection system. "Wet" type holes overhead would allow water into the motor and create an extremely dangerous situation.

OPERATIONAL PRINCIPLES

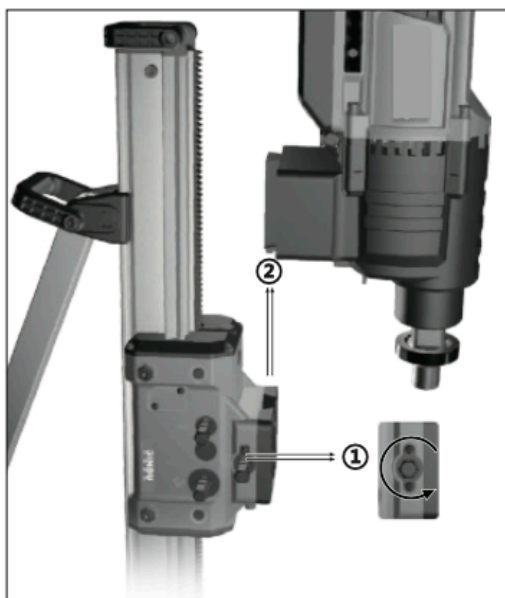
- The main drilling shaft rotates in a forward clockwise direction. The main drilling motor connects to the tool spindle to make contact with a surface and slowly bore a hole. Using the feed handles on the side of the drill, the user can raise or lower the drilling motor.
- These drills are ONLY to be used with diamond impregnated coring bits.
 - When drilling with "wet" type bits, the bit ends pulverizes the material and the water brings the material out of the cut.
 - When drilling with "dry" type bits, the bit end pulverizes the material and dust brings the material out of the cut.

MACHINE COMPONENTS

- The main components of the 25Z1 are the spindle, gearbox, motor, carriage, drill stand and wheeled base. The spindle is driven by the transfer case and the motor.
 - These components must not be removed except by a qualified technician. Power must be disconnected prior to any service.

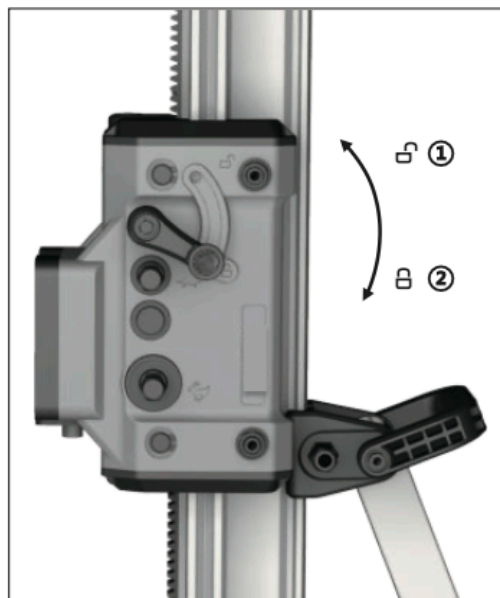


- ① Load indicator
- ② Alarm or malfunction
- ③ Main switch
- ④ Carbon brushes
- ⑤ Shift speed switch
- ⑥ Gearbox
- ⑦ Anti-locking ring
- ⑧ Core drill bits
- ⑨ Power Plug
- ⑩ Feed handle
- ⑪ Elevator/
lower body adjustment screw
- ⑫ Lifting body locking switch
- ⑬ Water pipe
- ⑭ 1:1 lifting and lowering
- ⑮ 1:3 lifting and lowering
- ⑯ Bracket handles
- ⑰ Angle adjustment square tube
- ⑱ Aluminum column
- ⑲ Stand angle adjustment screws
- ⑳ Base
- ㉑ Auxiliary wheel
- ㉒ Leveling bolt



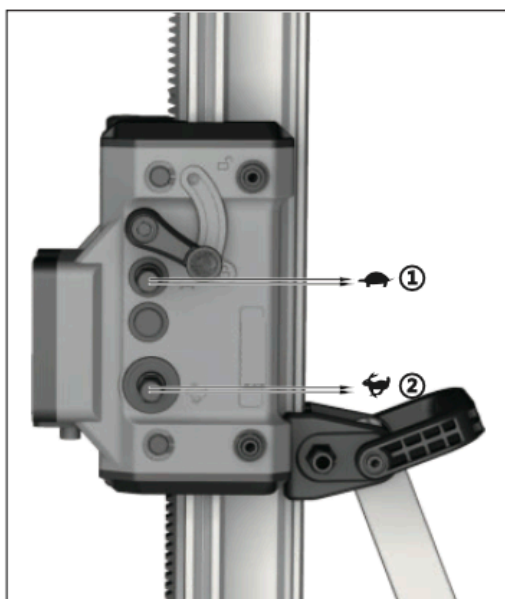
Quick Release Motor

Using the rocker provided with the machine, rotate the rocker to the ① position to perform the loosening operation, and then hold the head carrying handle with both hands, and the upward movement can be completed.



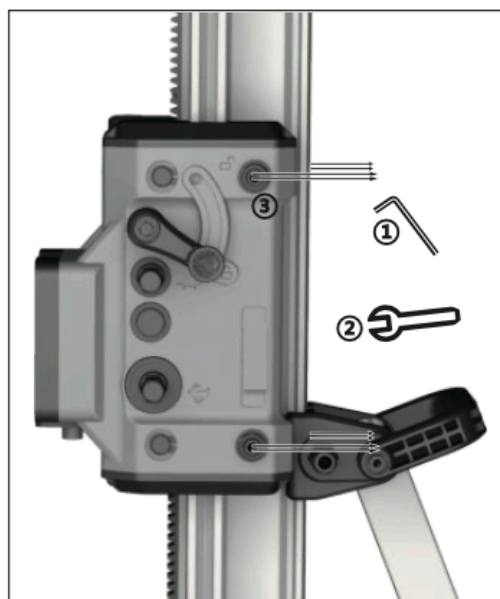
Carriage Locking Design

During transportation, push the bracketlocking device to the ② position to lock it, so that the bracket lifting body cannot move up and down, and push it to ① to unlock it.



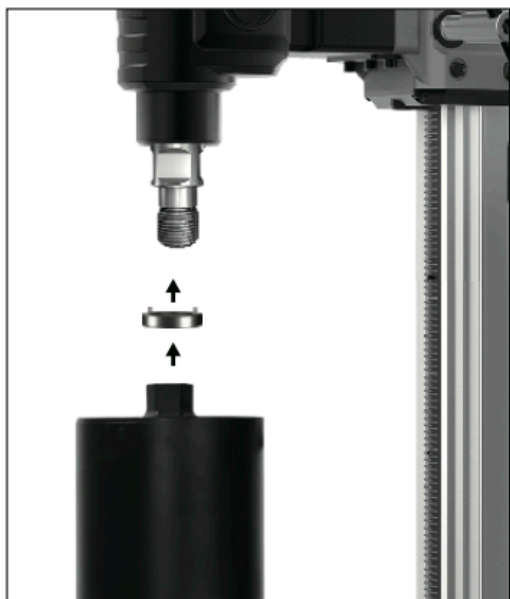
Dual-Speed Lift Body

If the rocker is installed at ① 1:3 lift, it is suitable for drilling large holes, which saves more energy and the downward drilling is more stable and even. If the rocker is installed at ② 1:1 elevation, it is suitable for drilling small holes, and the downward drilling is faster.



Lift Body Slack Adjustment

If the lift is too loose, you can use an allen wrench ① to tighten the ③ screws clockwise, and then use the ② wrench to tighten the ③ nut clockwise to fix it.



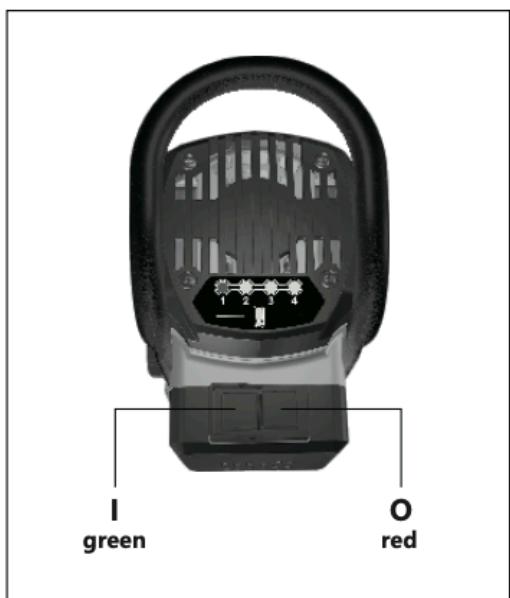
Anti-Locking Ring for Drilling

The Anti-Locking Ring for Drilling can prevent the drill bit and output shaft from jamming and locking during the drilling process. Before installing the drill bit, fix the anti-locking device on the output shaft in advance, and then install the drill bit.



Second Generation Mechanical Speed Control

The speed can be adjusted during the operation of the machine, the 1st gear 230r/min is a slow speed gear suitable for drilling large holes, the 2nd gear 370r/min is suitable for drilling small holes, the gear shift is smooth, stable and durable.



Open/Close

After checking the precautions before starting the machine, press i (green) to start the machine and then slowly lower the drill, and press o (red) to turn off the machine when the drilling is finished



Maintenance

The drill rig can be lubricated at the front of the output shaft after use to facilitate bit installation.

- This machine has one primary adjusting point for the angle between the drill stand and the drill motor. The Angle Adjusting bolt (arrow pointing at below) can be loosened to adjust the angle and retightened when desired angle is achieved.
- **CAUTION:** Releasing the adjusting bolt can cause the stand to quickly shift or tip over causing injury or damage.



TRANSPORTING THE MACHINE






- When transporting the machine, always lock the angle adjusting bolt.
- Always carry the machine with both hands.
- **DO NOT** transport the machine with bits in the spindle.
- When using the wheels, tilt the machine back towards the operator and once the wheels are engaged with the ground pull or push the machine on the ground.
- If transporting inside a vehicle, it is recommended to transport it on its side so as to avoid the item falling over.
- **DO NOT** carry/pull the machine by the cord.
- **DO NOT** allow the cord or plug to drag along the floor when transporting.

RUNNING THE MACHINE

- Do all pre-operational and operational safety checks from Chapter 1.
- Consider your security and stability as well as the orientation of the machine in the work area.
 - Consider the work surface material, condition, strength, density and rigidity. These factors directly affect the tools efficiency.
 - Make sure the machine is disconnected from the power source before securing the machine to the workpiece.
- Secure the machine base to the work surface by using a wedge anchor or other method to ensure the base does not move.
 - **CAUTION:** If not securely fastened the machine can rotate or tip over causing serious injury and/or damage.
- Use the four leveling bolts on the corners of the base to level the machine if needed.
- After placing the machine in work area, connect a safety chain or strap if necessary.

<ul style="list-style-type: none"> ○ A safety chain should attach to the machine (preferably through the carrying handle or O bolt) as well as attached to the work area in such a manner that prevents the machine from detaching or falling from the work area.
<p>➤ If necessary, adjust drilling angle.</p>
<ul style="list-style-type: none"> ○ Loosen the lower side bottom bolt on the base as necessary.
<ul style="list-style-type: none"> ○ Adjust the angle and tighten the side bolt
<p>➤ Ensure the feed handles are securely attached to the feed spindle.</p>
<p>➤ Ensure the work surface is free of debris, oil, etc.</p>
<p>➤ Select and set up fluid delivery method or dust system.</p>
<p>➤ Select the gear you will be using.</p>
<ul style="list-style-type: none"> ○ Do not force the gear shifter when changing between gears. There is a neutral position between gears.
<ul style="list-style-type: none"> ○ Change gears when the machine is stopped or almost stopped. It may help to slightly turn the drill spindle while applying slight pressure to gear selector knob.
<p>➤ If using the machine horizontally with the water system, connect hose to the side of the machine using the connector.</p>
<ul style="list-style-type: none"> ○ This connector takes standard ¾" US garden hose hookup.
<ul style="list-style-type: none"> ○ Make sure the water valve is in the off position.
<ul style="list-style-type: none"> ▪ This is generally at a 90 degree angle from the valve hose.
<ul style="list-style-type: none"> ○ Partially turn the water spigot on (usually half a turn).
<ul style="list-style-type: none"> ▪ CAUTION: DO NOT turn the hose on fully! You need sufficient water when using wet type bits. Using too much water pressure can cause the bits to not cut properly as well as water entering the gearbox.
<p>➤ Select appropriate size cutting bit. See section below for details on securing bit.</p>
<p>➤ Check that the machine is firmly attached to the work area.</p>
<p>➤ Plug the machine into power source.</p>
<ul style="list-style-type: none"> ○ Form a loose knot in the power cord close to the plug connection to prevent fluid from running down the cord and into the power receptacle.
<ul style="list-style-type: none"> ○ If working in a wet area, a proper inline GFCI should be used.
<ul style="list-style-type: none"> ○ If using an extension cord, make sure the cable size is sufficient and has a suitable capacity for the length of cord. Without proper size cord, the machine can be under voltage and damage the motor.
<p>➤ Turn feed handle raising the cutter until the bit is above the work surface.</p>
<p>➤ Open the water valve to allow water to come out to the work surface.</p>
<p>➤ ATTENTION: BE AWARE THESE MACHINES ARE EXTREMELY POWERFUL. THEY HAVE A TREMENDOUS AMOUNT OF TORQUE, WHICH MIGHT NOT BE SUITABLE FOR ALL POTENTIAL USERS. ESPECIALLY IN LOW GEAR AND WITH LARGER BITS. DESPITE THE SAFETY CLUTCH, THESE DRILLS CAN STILL INJURE AN INEXPERIENCED USER. IF IN DOUBT, CONTACT A PROFESSIONAL FOR ADVICE.</p>
<p>➤ Turn the machine on by depressing the green button switch to the "on" position.</p>
<ul style="list-style-type: none"> ○ These on/off switches have an overcurrent protection device internally. If it is tripped, wait three minutes for the switch to reset itself.

- There is also at the top of the motor a visual indicator showing the draw of the motor at any time. The machine has an intelligent controller that will make the speed slow down during drilling overload.

Symbol	State	Meaning
	Show green	25% of load
	Show green	50% of load
	Show green	75% of load
	DisplayOrange	100% of load
	Red color	<p>(1) Over-voltage protection: blinking 1 time, 1S interval</p> <p>(2) Under-voltage warning: blinking 2 times, interval 1S</p> <p>(3) Overload warning: blinking 3 times, 1S interval</p> <p>(4) Carbon brush life warning: 4 flashes, 1S interval.</p> <p>(5) Motor temperature protection: blinking 5 times, 1S interval</p> <p>(6) Controller temperature protection: blinking 6 times, 1S interval</p> <p>(7) Speed sensor failure warning: 7 flashes, 1S interval</p> <p>(8) Software short-circuit protection: blinks 8 times at 1S intervals</p> <p>(9) Primary overcurrent protection: 9 flashes at 1S intervals.</p> <p>(10) Secondary overcurrent protection: 10 flashes at 1S intervals.</p> <p>(11) Tertiary overcurrent protection: 11 flashes at 1S intervals.</p> <p>(12) Motor blocking protection: flashing 12 times, interval 1S</p> <p>(12) Over-zero error protection: 13 flashes, 1S interval.</p> <p>(13) Communication error warning: flashing 14 times, interval 1S</p> <p>(14) Internal communication error protection: blinks 15 times</p>

- Very slowly engage the cutting bit with the material surface by lightly engaging the hand crank down towards the material.

- NOTE: During the initial stages of contact the bit may wander.

- After about 1/8" of cutting has been achieved in the work surface, slightly more force can be applied. This will be the normal amount of force the rest of the hole.

- NOTE: Do not force the hole. Let the machine do most of the work. Excessive physical effort should be avoided as it can cause damage to the machine or the user.
- If the unit jams in a hole, stop the drill immediately to prevent injury. Disconnect the drill from the power supply and loosen the cutter by turning drill spindle counterclockwise. Never attempt to free bit by starting motor!

- After an interruption in drilling, make sure the drill bit is free and turns before restarting the hole. Be very careful at this point to make certain the drill does not bind when restarting.

- Make sure to keep the cutting material lubricated.

- Ease up on feed pressure as the cutter starts breaking through the backside of the material.

- Be certain all is clear on the output side of this core to prevent injury to persons or property.

- Finish drilling the hole.

- Turn the motor off and disconnect power once the drill is safely back up in the non-drilling position.

➤ Turn water valve off.
➤ Unbolt the wedge anchor.
➤ Disconnect safety chain/strap and move the drill to a new drilling location.

INSTALLING CORING BITS

➤ WARNING: Core bits can be sharp and should only be handled with gloves so as not to cut the user during installation or removal.
➤ Check that the bits are not damaged.
○ Coring bits that are damaged should not be used.
➤ Make certain the machine is unplugged from power.
➤ Raise the drill motor to ensure ample room to install the bit.
○ Apply grease to the spindle thread to prevent corrosion and allow easier core bit removal.
➤ Insert the coring bit and screw it onto the drill spindle.
➤ Tighten the bit until fully tightened.
○ Use wrenches that fit the spindle and coring bit to fully tighten.

Troubleshooting

Note

SERVICING SHOULD ONLY BE DONE BY A QUALIFIED TECHNICIAN.

DON'T FORGET TO UNPLUG POWER TO UNIT PRIOR TO SERVICE!

PROBLEM	SOLUTION
Motor does not turn on.	<ol style="list-style-type: none"> 1) Check external power source (extension cord, breaker, etc). 2) Loose internal wire. Check and secure if necessary. 3) Motor brushes defective. Replace if necessary. 4) Check to ensure the motor on/off switch is operable. Replace if necessary. 5) If there was an overload on the system, wait three minutes for the overcurrent protection in the on/off switch to automatically reset itself before attempting to restart the machine. 6) Possible issue with control board; There is a controller in switch box that has certain functions: 1: overvoltage protection. 2: undervoltage warning. 3: soft start. 4: current limit, constant speed. 5: overload protection. 6: speed failure warning. 7: temperature protection. 8: fault alarm
Excessive sparking when motor is running.	<ol style="list-style-type: none"> 1) This may indicate the presence of debris in the motor or worn out carbon brushes. Check the brushes for unusual wear and replace if necessary. Clean out the internal motor armature if necessary. 2) Armature has a rough edge. Inspect and replace if necessary.
Hole is not cutting.	<ol style="list-style-type: none"> 1) Cutting bit is dull. Replace bit. 2) Cutting bit has been glazed over. Deglaze the bit. 3) Work area material is not appropriate for bit type.
Bit is jammed while coring.	<ol style="list-style-type: none"> 1) Debris is lodged between core hole and bit. Rotate bit in both directions to and inspect bit for debris. 2) Make sure stand is secured to work surface.
Coring speed has reduced.	<ol style="list-style-type: none"> 1) Bit has hit rebar. Adjust feed control to prevent motor overload while cutting through rebar. 2) Diamonds on bit have glazed over. Deglaze bit or dress diamond rim on bit and check water flow rate. 3) Diamonds on bit have worn away. Replace core bit. 4) New core bit. Core at slow rate with new bits for 2-3 coring cycles. 5) The safety clutch is slipping. Tighten clutch. 6) Drilling progress is prevented by an accumulation of dust. Use suitable vacuum cleaner. 7) Water flow rate is too low. Increase water flow. 8) Core is stuck in the core bit. Remove core.

Core bit appears to wobble.	<ol style="list-style-type: none">1) Spindle is damaged. Replace spindle and check bearings.2) Bit is bent or damaged. Replace bit.3) The core bit is not screwed securely onto the spindle.4) Coring material is attaching to the bit. Inspect bit and increase water flow rate.
Water escapes at the water swivel or gear housing.	<ol style="list-style-type: none">1) The water pressure is too high. Turn down water flow.2) The shaft seal is defective. Replace seal3) The water hose is damaged. Replace hose.

General Maintenance

- Inspect electrical cords and electrical connections.
- Keep machine clean and free of debris.
- Check for misalignment, binding and breakage of all moving parts. If damaged, repair tool before use.
- Keep cutting tools sharp and clean. Sharp bits are less likely to bind and are easier to control.

Occasional Maintenance

- Have the power tool serviced by a qualified service technician using identical replacement parts.

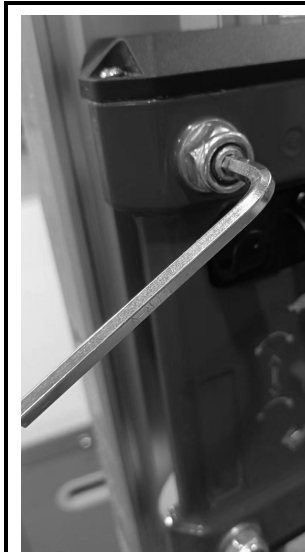
- Carbon Brush Replacement:

- 1) Check the carbon brushes and replace as necessary. When they wear beyond the wear limit and are shorter than 6mm, they should be replaced. If they are damaged or cracked, they should be replaced. Both brushes should be replaced at the same time.

- a. Unscrew the brush cover
- b. Remove the worn brushes
- c. Inspect new brushes
- d. Insert new brushes
- e. Re-screw brush cover

- Adjusting Carriage:

- 1) Periodically check and adjust carriage as necessary.
- 2) Use hex wrench to loosen the hex bolts on the carriage wheels. There are four hex bolts on each adjusting wheel. Backing out the bolts will loosen feed tension, while tightening the bolts will increase feed tension.
- 3) Adjust the bolts evenly while moving the handle up and down so that there's no free play yet not binding anywhere through its range of travel.
- 4) Make sure the outer lock nut is tightened without the hex bolt spinning.



- **Change Gear Oil:**

- 1) Change if necessary using SAE 140. This service is generally done around the 50 hour service mark.

- **DO NOT overfill.** Filling the gearbox $\frac{3}{4}$ is generally acceptable for most drilling applications.

- **Adjust Safety Clutch:**

- 1) Adjust clutch as necessary.

- **NOTE:** A torque wrench is necessary for this service.

- **Make certain the spindle is facing the ground so as not to get oil/grease everywhere.** Locate the hex screws holding the gear housing together and remove them.

- **Gently pull the gear housing apart.** You may use a couple flat screwdrivers to gently apply pressure to separate the housings.

- **Hold the spindle in place using the box wrench.**

- **Use the torque wrench to tighten the clutch nut.**

- **Torque the tensioning nut to 45 NM (398 inch/lbs, 33 ft/lbs).**

- **With the clutch nut tightened, reassemble the housings.** Make sure the orientation of the internal gears is correct and the housings mate correctly.

- **Reattach the bolts that hold the housing together.**

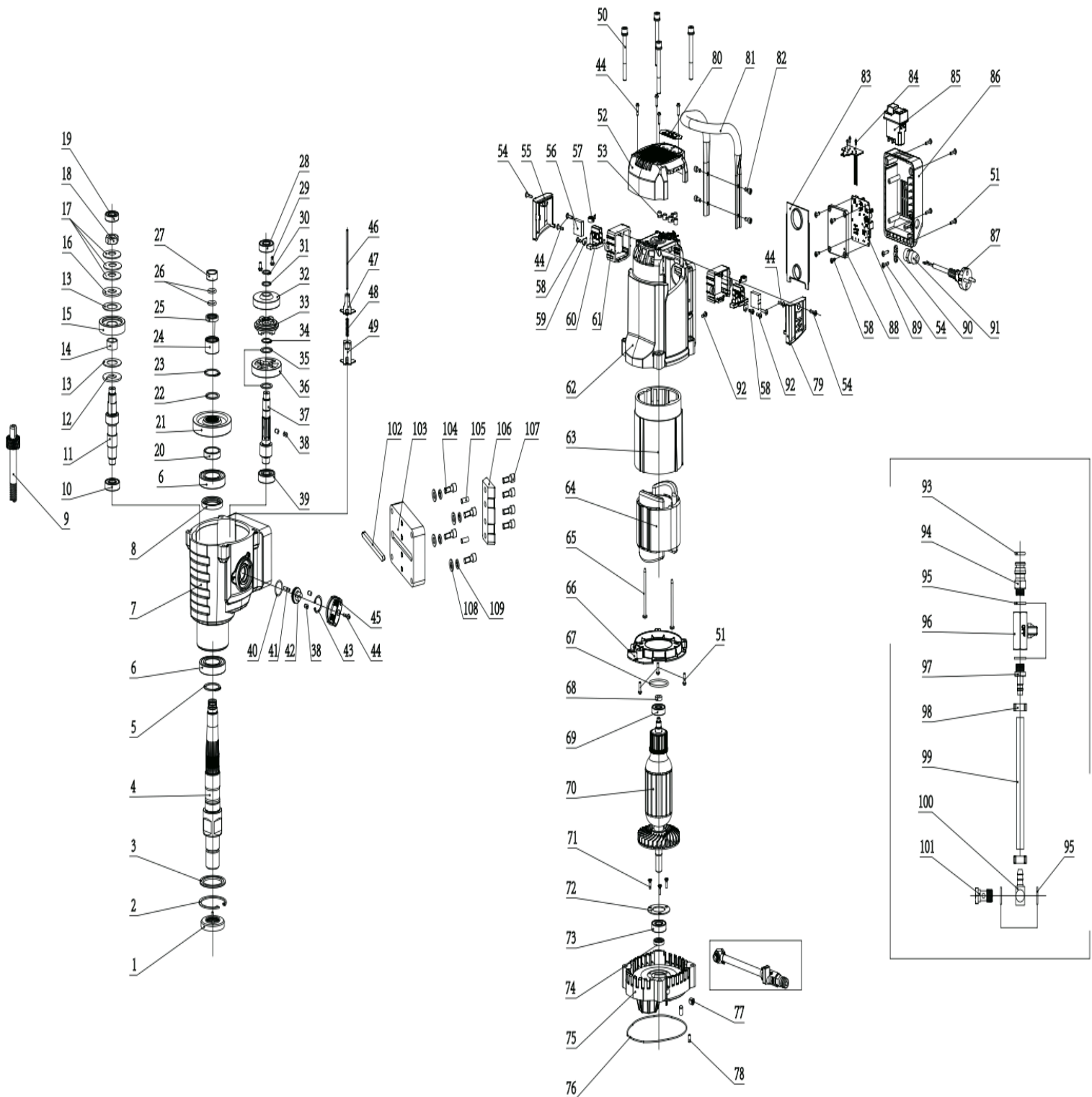
Chapter

6

Parts List – Motor and Gearbox

				Z1Z-CF-9500/00-01			
No.	Symbol	Description	QTY	No.	Symbol	Description	QTY
1	Z1Z-360/0-35	360 Clutch sleeve assembly	1	56	Z1Z-CF-9500/0-35	Brush assembly (8x24x28 220V)	2
2	GB/T893.1-1986 A_D62型	Hole retaining ring A_D62_GBT893	1	57	Z1Z-CF-9500/0-52	Coil spring	2
3	Z1Z-CF-9500/0-05	Dust cover	1	58	GB / T 847-1985	Phillips pan head self-tapping screws ST4x11	6
4	Z1Z-CF-9500/0-15	Output shaft (one inch seven teeth)	1	59	Z1Z-CF-9110/0-11	Brush holder fixing spacer	2
5	A_D35_GBT894	Shaft retaining ring A_D35_GBT894	1	60	Z1Z-CF-9500/0-34	Brush holder assembly	2
6	GB / T 276-2013	Deep groove ball bearing 6007RS	2	61	Z1Z-CF-9500/0-13	Brush holder box	2
7	Z1Z-CF-9500/0-03	Reduction gearbox	1	62	Z1Z-CF-9500/0-01	Housing	1
8	GB/T13871-1992 FW型	Simmering oil seal TC_35x50x7	1	63	Z1Z-CF-9500/0-06	Stator sleeve	1
9	Z1Z-CF-9500/0-51	Pump oil gear	1	64	Z1Z-CF-9500/2-01	Stator assembly	1
10	GB / T 276-2013	Deep groove ball bearing 6202(without cover)	1	65	GB / T 847-1985	Self-tapping screw ST4.8x80	2
11	Z1Z-CF-9500/0-17	No.3 gear shaft	1	66	Z1Z-CF-9500/0-07	Windshield ring	1
12	Z1Z-CF-9500/0-50	Pressure plate 3.9	1	67	Z1Z-CF-9500/0-37	O-ring 32x37x2.5	1
13	Z1Z-CF-9500/0-42	Friction plate Ø43xØ20x1.2	2	68	Z1Z-CF-9500/0-44	Induction magnetic ring(Ø8XØ15X5)	1
14	Z1Z-CF-9500/0-33	Steel sleeve for gear No.2	1	69	GB / T 276-2013	Deep groove ball bearing NSK 6202ZZ	1
15	Z1Z-CF-9500/0-16	Gear No. 2	1	70	Z1Z-CF-9500/1-01	Rotor assembly	1
16	Z1Z-CF-9500/0-23	Pressure plate	1	71	GB / T 820-2015	M4x12 Phillips countersunk head machine screws	3
17	Z1Z-CF-9500/0-24	Disc spring 1.6xØ18xØ43	3	72	Z1Z-CF-8260/0-18	Center cover pressure plate	1
18	Z1Z-CF-9500/0-29	Hexagonal thin nuts M18 (class 10.9)	1	73	GB / T 276-2013	Deep groove ball bearing NSK 6202DU	1
19	GB / T 276-2013	Deep groove ball bearing 6002 (without cover)	1	74	GB/T13871-1992 FW型	Skeleton seal TC 15x25x4.5	1
20	Z1Z-CF-9500/0-25	Steel bushing (31.5x39x10)	1	75	Z1Z-CF-9500/0-02	Intermediate cover	1
21	Z1Z-CF-9500/0-21	Hexagonal gear	1	76	Z1Z-CF-9500/0-39	Shaped sealing ring	1
22	Z1Z-CF-9500/0-48	Spacer Ø31.5	1	77	GB / T 80-2007	Hexagon socket set screw M10x10	1
23	A_D32_GBT894	Shaft retaining ring A_D32_GBT894	1	78	GB / T 119.2-2000	Locating pin Ø5x12	1
24	GB / T 5801-1994	Needle roller bearing NK25-20	1	79	Z1Z-CF-9500/0-09	Brush cover left	1
25	GB/T13871-1992 FW型	Simmering oil seal TC_22x30x5	1	80	/	Load indicator label	1
26	Z1Z-CF-9500/0-36	O-ring 15x21x3(high temperature fluorine rubber)	2	81	Z1Z-CF-9500/0-32	Bend Carrying Handle	1
27	Z1Z-CF-9500/0-26	Stainless steel bushing (Ø21xØ25x11)	1	82	GB / T 70.1-2008	Hexagon socket cheese head machine screws M5x16	4
28	GB / T 276-2013	Deep groove ball bearing NSK 6202(without cover)	1	83	Z1Z-CF-9500/0-12	Switch box base	1
29	GB / T 818-2000	M5X10(Phillips large flat head machine screw)	2	84	GB / T 818-2016	M3x6 Phillips pan head machine screw (stainless steel)	3
30	A_D17_GBT894	Shaft retaining ring A_D17_GBT894	1	85	KEDU_KJD32D	KEDU KJD32D Switch (220V)	1
31	Z1Z-CF-9500/0-28	Spacer Ø17	1	86	Z1Z-CF-9500/0-11	Switch box	1
32	Z1Z-CF-9500/0-18	Gear No.4 (fast)	1	87	GB/T 5013.4-2008	Power cord with plug triple 3x2.5mm²x5m	1
33	Z1Z-CF-9500/0-22	Shift clutch sleeve	1	88	Z1Z-CF-9500-0-43	PCB backplane	1
34	A_D20_GBT894	Shaft retaining ring A_D20_GBT894	1	89	/	Controller (220V)	1
35	Z1Z-CF-9500/0-27	Spacer Ø20	2	90	Z1Z-CF-180-02	Crimp plate	1
36	Z1Z-CF-9500/0-19	Gear No. 4 (slow)	1	91	Z1Z-CF02-80/0-31	Ø2-80 Handle sheath	1
37	Z1Z-CF-9500/0-20	Gear No. 5 shaft	1	92	GB / T 818-2016	M4x8 Phillips pan head machine tapping brass screws	3
38	YJT 12002	Ball plunger Ø5x6 25N Bearing steel bead HRC56-60	4	93	GB-T 3452.1-2005	O-ring seal 11.2*2.65*16.5	1
39	GB / T 276-2013	Deep groove ball bearings NSK 6203 (without cover)	1	94	Ø2-80/0-64	Water switch connector	1
40	Z1Z-CF-9500/0-38	O-ring seal 22x26x2	1	95	Ø2-80/0-60	Faucet gasket	4
41	GB / T 119.2-2000	Pin Ø4x18	1	96	Ø2-80/0-43	1/4" miniature ball valve	1
42	Z1Z-CF-9500/0-04	Knob holder	1	97	Z1Z-CF-9500/0-46	Water spout output connector Ø10.5	1
43	GB/T893.1-1986 A_D26型	Hole retaining ring A_D26_GBT893	1	98	JB / T 8870 - 1999	Fastening ring (stainless steel) 8-12	2
44	GB / T 818-2016	M4x12 Phillips pan head machine screw	9	99	/	Inner diameter Ø10*300 mesh pipe	1
45	Z1Z-CF-9500/0-14	Knob	1	100	Z1Z-CF-9500/0-45	Spout connector Ø10.5	1
46	Z1Z-CF-9500/0-49	Cylindrical pin Ø4x105	1	101	Ø2-80/0-61	Fastening screws	1
47	Z1Z-CF-9500/0-31	Adapter plate B	1	102	GB/T1096-1979	Flat key A12x8x110	1
48	Z1Z-CF-9500/0-40	Adapter plate compression spring Ø5.8x0.8x32	1	103	CA-6100AW/0-01	Transition block (126x100x5)	1
49	Z1Z-CF-9500/0-30	Adapter plate A	1	104	GB / T 70.1 - 2008	Hexagon socket cheese head M8x60 machine screws	4
50	GB / T 70.1-2008	Hexagon socket cheese head machine screws M8x80 (combination)	4	105	GB/T 119.2	Locating pin Ø4x12	2
51	GB / T 818-2016	M4x16 Phillips pan head machine screws	7	106	CA-6100AW 0-13	V-block	1
52	Z1Z-CF-9500/0-08	Back cover	1	107	GB / T 70.1 - 2008	Hexagon socket cheese head M8*20 machine screws	4
53	Z1Z-CF-9500/0-47	Light guide post	1	108	GB / T 97.1 - 2002	Flat washers Ø8	4
54	GB / T 847-1985	Phillips self-tapping screws ST4x18(flat head)	4	109	GB / T 93 - 1987	Spring washers Ø8	4
55	Z1Z-CF-9500/0-10	Brush cover right	1	110			

Breakdown View – Motor and Gearbox



Parts List – Drilling Stand

No.	Symbol	Description	QTY	No.	Symbol	Description	QTY
1	GB/T70.1-2000	M8X20 Hexagon socket cheese head screws	9	46	CA-6100AW/0-11	Square tube top cover	1
2	CA-6100AW/0-14	M8X20 Hexagon socket cheese head screws	1	47	GB/T6170-2000	M5 nut (thickness 2.7mm)	2
3	CA-6100AW/0-15	Locking V-block 2	1	48	GB/T70.1-2000	A M8X60 hexagon socket cheese head screws	1
4	CA-6100AW/0-16	Locking V-block 1	1	49	GB889.1	M8 jam nut	1
5	CA-6100AW/0-35	Locking block	1	50	GB/T70.1-2000	MSX12 hexagon socket cheese head screws	2
6	CA-6100AW/0-39	Steel sleeve 15X20X13	1	51	CA-6100AW/0-12	Handle	2
7	CA-6100AW/0-17	Spacer 15X25X2	1	52	CA-6100AW/0-04-1	Aluminum square tube (1.0M)	1
8	CA-6100AW/0-40	Rocker shaft	1	53	CA-6100AW/0-04-2	Rack (with 1.0M square tube)	1
9	GB/T819.1-88	Pressure plate	2	54	GB/T70.1-2000	MSX12 hexagon socket cheese head (combination) screws	6
10	CA-6100AW/0-41	Hexagon socket cheese head screws M4x10	1	55	CA-6100AW/0-28	Connecting shaft	1
11	02-80/0-51	Support plate	3	56	CA-6100AW/0-37	Retaining block	2
12	GB/T819.1-88	Horizontal column 18X8	10	57	CA-6100AW/0-05	Base	1
13	CA-6100AW/0-08	M4X12 Phillips pan head machine screws	2	58	GB/T6170-2000	M16 (galvanized)	1
14	CA-4788FW/0-03	Lifting body cover	1	59	GB/T 894.1	Elastic retaining ring for shaft D24	4
15	CA-6100AW/0-02	Fixed seat	1	60	CA-6100AW/0-29	Trapezoidal bolt	4
16	CA-6100AW/0-18	Lifting body	1	61	CA-6100AW/0-30	Threaded bushing	4
17	CA-6100AW/0-19	Rack locking pin	1	62	CA-6100AW/0-31	Push rod nut	4
18	CA-6100AW/0-20	Locking pin holder	1	63	GB/T5781-2000	Hexagon socket head cap screw M10X90	1
19	CA-6100AW/0-09	Eccentric shaft (for rack locking)	1	64	CA-6100AW/0-06	Tie rod seat	2
20	GB/T 896-2020	Locking knob	1	65	CA-6100AW/0-38	Steel bushing(13X18X13.5)	1
21	GB/T 896-2020	E-type Circlip D12	2	66	CA-6100AW/0-49	Compression spring φ12.7xφ1.2x50	1
22	CA-6100AW/0-42	E Type Circlip D6	1	67	CA-6100AW/0-46	Spacer 10.5X17X1.5	1
23	CA-6100AW/0-48	Spacer 8.5*12*1	1	68	CA-6100AW/0-50	External hexagonal nut M10X30	1
24	CA-6100AW/0-10	Compression spring φ9.4xφ0.6x13	1	69	CA-6100AW/0-32	Tie rod shaft (upper)	1
25	GB/T 894.1	Locking tie rod	6	70	GB/T70.1-2000	Hexagon socket head cap screw M6X25	2
26	CA-6100AW/0-36	Elastic retaining ring for shaft D17	4	71	CA-6100AW/0-07	Aluminum tie rod 600mm	1
27	CA-6100AW/0-21	Steel bushing 17X24X10	1	72	CA-6100AW/0-33	Tie rod shaft (lower)	1
28	CA-6100AW/0-22	No.3 tooth shaft	1	73	GB/T 894.1	Elastic retaining ring for shaft D15	6
29	GB/T 1096-2003	No.2 shaft	2	74	CA-6100AW/0-52	Caster (15 inch)	2
30	CA-6100AW/0-23	Flat key A6X14	2	75	CA-6100AW/00-03	Caster bracket assembly	1
31	GB/T 894.1	Gear No.2	2		CA-6100AW/0-34	Support shaft (wheel)	1
32	GB/T 276	Flexible retaining ring for shaft D18	2		CA-6100AW/0-47	Roller bracket	1
33	CA-6100AW/0-24	6003RS (ANHRN)	1	76	JB/T7271-4	M10 handle ball	3
34	GB/T 894.1	Gear shaft No. 1	8	77	CA-6100AW/0-57	Triple Crank Handle Lever	3
35	CA-6100AW/0-43	Shaft retaining ring D12	16	78	CA-6100AW/0-56	Sleeve for three-handle lever	1
36	CA-6100AW/0-55	Spacer 12x20x1.5	8	79	GB/T308-2005	Steel ball 5	1
37	CA-6100AW/0-03	Bushing 12x19x14	8	80	ADT270/3-3-1	Slide spring	1
38	CA-6100AW/0-25	V-roller	2	81	GB/T895.2-1986	Steel wire spring for shaft φ22×2×φ24	1
39	GB889.1	Roller shaft	4	82	ADT270/3-4	Slide sleeve	1
40	CA-6100AW/0-44	M10*1.5 hexagonal lock nut	4	83	CA-6100AW/0-51	Cylindrical pin φ4×7	1
41	CA-6100AW/0-26	Spacer 10X20X1	4	84	GB/T 119.2	Positioning pin φ4×12	2
42	GB/T70.1-2000	Eccentric shaft (for roller locking)	2	85	CA-6100AW/0-54	Hexagonal head flange face bolts M8x10 (counter tooth)	1
43	CA-6100AW/0-45	M6X35 hexagon socket cheese head screws	8	86	DIN 316 - 1983	One word hand screw M8x25	1
44	CA-6100AW/0-27	Spacer 6.5X15X1	4	87	GB 5281 - 1985	Hexagon socket cheese head set screws (stainless steel)	1
45	GB/T6170-2000	Limit ring	2	88			

Breakdown View – Drilling Stand

