2300W DIAMOND CORE DRILL

OPERATION MANUAL

Please read this manual before operating or maintaining the tool.

SAFETY GUIDELINES

Warning – When using the tools, all the safety instruction should always be observed to reduce the risk of fire, electric shock and personal injury before attempting to operate the tool, please read all the instruction.

SAFETY INSTRUCTIONS

1. Keep work area clean: Cluttered area and benches are prone for injuries if not looked after.
2. Consider the work area environment: Don't use diamond core drill in a damp or wet environment. Don't expose diamond core drill in the rain. Keep the work area well illuminated. Don't leave flammable chemicals in particular inflammable liquids or gases present. The motor produces sparks during normal rotation for that spark may cause the risk of a fire.
3. Proper safety wear conducts must be abided. Don't wear loose clothes as they can get caught in moving parts. The operator should wear rubber gloves and non-skid footwear, goggles, and safety cap.
4. Grounding of Class 1 tools is necessary while in use to protect you from electric shock, Class 1 tools is equipped with an approved three-conductor cord and three-prong grounding-type plug. The black (or green and yellow) conductor in the cord is the grounding wire, one end of the wire is in the grounding sign of the tool outer shell, the other end of wire is connected with the ground wire of plug. Never connect the black (or green and yellow) wire to a live terminal.
5. The socket must be fitter with grounding, don't insert Class 1 tools into the sockets without grounding.
6. Keep children away - Don't let children come into contact with the tool or extension cord. All visitors should be kept away from the work area.
7. Don't abuse cables – Never carry the tool by cable, yank it or disconnect it from the socket. Keep the cable from heat, oil, sharp edges and water.
8. Avoid unintentional starting – Don't carry the tool while it is plugged in with your fingers on the switch. Make sure switch is off when connecting the plug to the socket, and remove the spanner, screwdrivers etc.
9. Use extension cords when tool is used outdoors or indoors such as a special extension wire board. Use only three-conductor cord and with reliable grounding.
10. Take care when the tool is position in a downward direction from a high position. Safety wear is recommended.
11. In order to avoid unintentional electric shock, please check the grounding condition of electrified body in working area before operating. It is not recommended to operate the tool under this sort of condition. Once the drill bit touches an electrified body in the wall, floorboard or baseboard, the electrified outer shell of the drill may cause bodily injuries.
12. Safety wear is recommended when drilling on high the ceiling to avoid the drill core from injuring any personal below or damaging anything that is below.

INSTRUCTIONS

How to install the drill

1. Before operating, fix the base on the work piece reliably and tightly. Fasten it with expansion bolts, then fastening 4 bolts on the base uniformly.
2. In the end, tightening them with the nuts.

Check the voltage

1. Make sure the voltage is the same as that indicated on the board of the tool. The voltage in the circuit should be kept at ±5%.
2. Before operating the tool, please check whether it is equipped with excess current operative protector or insulating transformer. If not installed, please install it to ensure the operator does not get shocked during operation.

How to install drill bit

1. Installing the diamond thin bit carefully. The end thread should match with the end output shaft. The end thread should be smeared with grease firstly.
2. After tightening the drill bit, let it run on idle. Make sure that its radial motion is corresponding with the general requirement.
3. The drill is now ready to operate.

Opening a bore/drilling a bore:

1. Start the drill under no-load condition.
2. After starting, loosen the feed value. You can begin to drill when you see the outflow of water from the drill bit.
3. When drilling a bore with the portable drill, put the drill to a certain inclined angle firstly.
4. Drill a crescent-shape notch on the surface of the concrete the hold the drill vertically. If the drill swayed, then the drill bit may be damaged.
5. You should drill slowly and uniformly. Don't apply heavy force to the tool. You can increase thrust once the drill bit has drilled into the workpiece by about 5mm deep.
6. During drilling, if the rotary speed of motor reduced obviously, then it means it has an excessive load. Please reduce the feed pressure properly to keep its rotary speed. This should be done in an ideal location.
7. If the motor emits fume or peculiar smell, please shut off the drill at once. The work will have to wait to avoid the motor from overloading and the coils getting burnt.
8. If the drill is forced into a reinforced steel bar, the clutch on the output shaft may slip, the excess current protector jumps and the motor seizes operation. This improper operating method will reduce he life of the drill bit and damage the motor.

Material

1. When drilling into reinforced concrete, if the drill bit touches the reinforcing steel bar, the current will increase sharply, the motor starts vibrates erratically, and the drill overloads. At this time, the drill thrust should be reduced properly, the lower current can have a bad effect on the drill speed and drill bit.
2. If the grit, gravel falls into the drill or the drill touches the reinforcing steel bar, the drill will be caught, the higher excess current happened, the protection switch jumped and the clutch will slip.
3. Here, please shut off the tool, remove the drill bit and clean the chips in the gap.
4. Please wait for about 3 minutes to let the overload switch cool down before restarting the protection switch to continue drilling.
5. When drilling the wood, thick blacktop, asphalt felt etc, its current will increase. The best technique is to drill slowly, uniformly and gradually. If the clutch slips continuously, please stop the drill and retighten the clutch.

Remove drill core

1. When the drill bit almost drill through the floorboard, wall or other building material, be careful in reducing the drill speed to avoid drilling forcibly.
2. When drilling restarts, please shut off the tool, remove the drill bit and clean the drill bit walls with water. After cleaning the drill bit, tap the drill slightly with a wood stick, be careful in removing the drill core and damaging the drill bit. Then re-install the drill bit to continue operating.

Keep the motor ventilated and cool down

1. During operation, the ventilated notch of the motor should not be clogged with dirt to avoid temperature building up in the motor. This will affect the lifetime of the motor or possible burn the insides of the motor.

Waterless operation forbidden

1. When operating, there should be plenty of water flow in the walls of the drill bit to cool it down. It will also wash up the mud to avoid damaging the drill bit and sealing washer.

Avoid dampening the motor

1. Try to keep the housing of the motor away from water to avoid reducing its insulating performance or leaking electricity.
2. When the drill starts drilling on the backstroke, the water should be flowing from the drill bit where it is collected in the collector to avoid dampening the drill.

Avoid vibrating the drill (Bracket shape)

1. When drilling, sometimes the gap between the elevating body and square pipe and rack increases and may cause the frill to vibrate. At this time, please shut off the drill and check the condition of the 4M12 copper bolts. Tightening some relative bolts to adjust it to the proper gap.

Changing speed

1. When adjusting the speed, the drill must be powered down, then turn the knob. It is not recommended to turn the knob when starting the machine, otherwise the gears may be damaged.

SPECIFICATIONS

Type	16-168A
Style	Portable
Input power	2300W
Voltage	220V (110V)
Frequency	50-60Hz
No-Load Speed	0-1400r/min
Max Drill Diameter	168mm
Weight	8.5kg
External Dimensions	420 x 115x 320mm

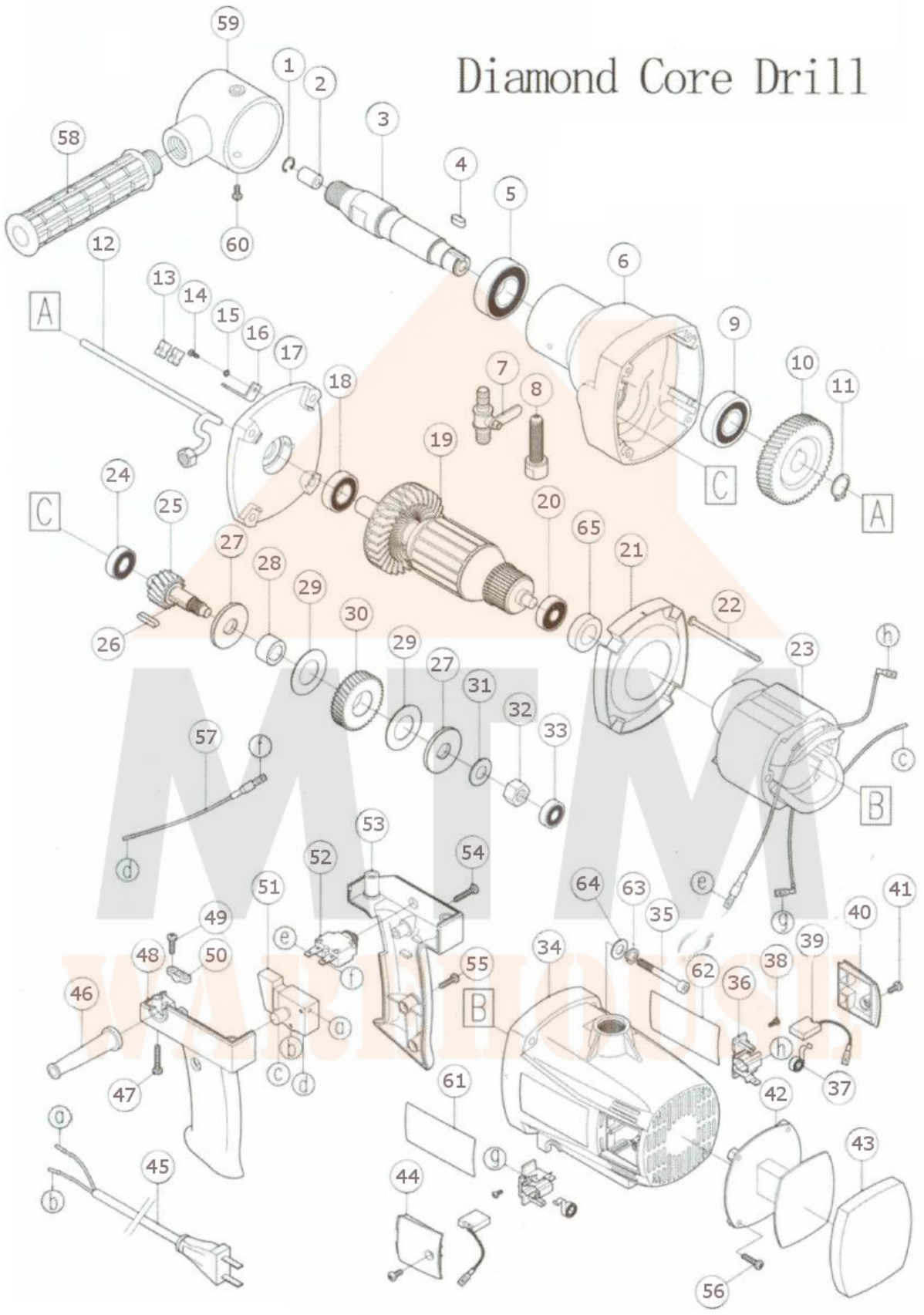
MAINTENANCE

1. If the drill is having any trouble, please send it to an authorized service centre. It Is not strictly allowable to be dismantle or replace the parts optionally.
2. Please check the electric brush and commutator periodically. when the brushes are worn to the length of about 6mm, they must be changed. Use only original ones, otherwise the commutator may get damaged. If one brushed gets replaced, the other brushed must also be changed regardless. If drill starts to spark heavily when running or the commutator is worn or burned, please check and repair the commutator or replace a new rotor.
3. The drill should be checked and repaired periodically after operating for a long time. The main items are: whether the electric wire is good or not, the grounding is reliable or not, the inner wire, the switch and plug works well or not, the insulating resistance of the motor is safe or not, the stator and rotor are in short circuit or not, the bolts are loosened or not, please replace the lubricating oil and wearing parts etc.
4. Replace the rubber sealing washer in time. After a long period of operation, if you find that water is coming into the top of the drill, please check and replace the sealing washer immediately.
5. Keep the drill clean and dry, If not in use, please clean the drill and it should be kept in a dry, clean place, dismantle the drill bit. The main shaft of the drill and the connecting parts of the drill thread be smeared with some grease so as to protect them from wear.
6. Adjust the safety clutch (When you find the friction of clutch become too unnoticeable).

TROUBLESHOOTING

Problem	Cause	Solution
Motor does not run when connecting to a power supply	1. Power supply disconnected. 2. Switch breaker positioned. 3. Brush not in enough contact or used up. 4. The winding of stator & rotor.	1. Check the connecting power supply. 2. Check and repair switch or replace improperly or weak contacting switch. 3. Replace the electric brush. 4. Check or replace stator & rotor open circuit.
Heavy sparks and rings sparks occur on commutator of the motor	1. Rotor winding is on short circuit of open circuit. 2. Brush spring positioned improperly or weak contact. 3. Commutator worn seriously	1. Repair or replace the rotor. 2. Adjust the spring pressure. 3. Replace a new rotor.
Drill vibrated	1. The baes fixed loosened. 2. The gap between elevating body and square rack largened. 3. Elevating body and connecting bolts loosened.	1. Reassemble and fix the frame. 2. Adjust the gap. 3. Check the bolt.
Drill speed is slow	1. Drill bit is worn 2. Ceiling of the drill bit is clogged with grits or chips in the gap. 3. Motor vibrating. 4. The nuts on the safety friction is loose.	1. Repair or replace the drill bit. 2. Stop the drill, remove the foreign materials from the gap. 3. Adjust and tighten the connecting bolt. 4. Tightening nuts clutch loosened

Part List



No.	Description	Qty	No.	Description	Qty
1	Circlip for hole	1	34	Housing	1
2	Rubber sealing	1	35	Screw (M6x50)	4
3	Output shaft	1	36	Brush holder assembly	2
4	Key (6x14)	1	37	Volute spring	2
5	Bearing (6205)	1	38	Screw (ST2.9x10)	2
6	Gear box	1	39	Carbon brush	2
7	Water switch	1	40	Right brush cap	1
8	Water switch connector	1	41	Screw (ST4.2x10)	2
9	Bearing (6204)	1	42	After the shoulder	1
10	No. 4 gear	1	43	After the shoulder bushing	1
11	Circlip for shaft	1	44	Left bush cap	1
12	Brass connector	1	45	Cable	1
13	Wool felted block	2	46	Cable sheath	1
14	Screw (M4x8)	1	47	Screw (ST4.2x30)	4
15	Spring washer (Ø4)	1	48	Left handle	1
16	Bracket	1	49	Screw (ST4.2x14/C)	2
17	Middle cover	2	50	Cable pressing plate	1
18	Bearing (6003)	1	51	Switch	1
19	Armature	1	52	Current overload protector	1
20	Bearing (6000)	1	53	Right handle	1
21	Fan shroud	1	54	Screw (ST4.2x25)	1
22	Screw (4.8x65)	2	55	Screw (ST4.2x20)	2
23	Stator	1	56	Screw (ST4.2x22)	4
24	Bearing (6001)	1	57	Switch wire	1
25	No. 3 Gear shaft	1	58	Side handle	1
26	Key (5x20)	1	59	Casting connector	2
27	Pressing ring	2	60	Screw (M6x12)	1
28	Iron sleeve	1	61	Brand	1
29	Friction plate	2	62	Name plate	1
30	No. 2 Gear	1	63	Spring washer (Ø6)	4
31	Butterfly spring	1	64	Flat washer (Ø6)	4
32	Special nut	1	65	Bearing sleeve	1
33	Bearing (628)	1			

Address: 5 Lyn Parade, PRESTONS, NSW 2170

E-mail: sales@mtmwarehouse.com.au

Telephone: (02) 9607 4300