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DITEQ SHIBUYA HAND HELD CORE DRILL SAFETY PRECAUTIONS

1. Know your machine. Read carefully this manual and also a manual of the Drill Stand to be used with this Drill Motor in order to learn the application of the machine and the limitations as well as potential hazards associated with the machine.
2. During the operation, the Core-Bit rotates with very high speed. Do not wear loose clothing, dangling objects, rings, and jewelry to eliminate the risk in which the operator gets caught in the moving parts such as the Core-Bit. Keep your face away from the air inlet, outlet of the motor. Long hair must be tied up.
3. Always wear protective clothing such as helmets, safety goggles, earplugs, heavy-duty gloves, and special work boots with reinforced toe. (During the operation, do not wear gloves to reduce the risk in which the operator gets caught with the Core-Bit.)
4. Do not operate when you are tired or under the influence of any medicine, drugs, and alcoholic beverages.
5. Consider the work area environment. Do not expose the drill motor to water. Water in the drill motor increases the risk of electric shock.
6. Do not operate the machine in the presence of flammable liquids or explosive or combustible gas. Sparks generated by Armature and Carbon Brushes in the Drill Motor could cause an explosion of fire.
7. In case of operation in a closed room or basement, make sure that the air is in good condition (plenty of oxygen, no toxic gas), before operation.
8. Before operation, do ensure that the Core-Bit is connected with the Spindle of the Drill Motor tightly and securely, so that the Core-Bit will not come off and not cause damage to persons and property around.
9. Before operation, do ensure that the Drill Stand is fixed firmly to the surface of drilling object, when using drill stand.
10. Never use this machine without the Portable Residual Current Device (PRCD), which is equipped in the electric cable. And inspect it periodically to confirm that it works properly.
11. Before starting drilling, make sure that there is no live electric cable in the drilling object that the Core-Bit will cut through.
12. Do not allow other persons to use this machine, unless they have read and understand this manual.
13. Unintentional start of the Drill Motor is quite dangerous. When the Drill Motor is not in use with the drilling operation, do ensure that the plug is disconnected from the power source outlet.
14. If the main power supply gets power failure during operation, turn off the switch immediately in order to avoid the unintentional start of the Drill Motor.
15. Protective function of this machine may not work properly when atmosphere temperature is below 32°F or above 104°F. After using in cold temperature, drain out the all the cooling water to avoid possible damage of seals.

SAFETY

1. When drilling at high level, keep proper footings and balance at all times. Prepare yourself for the kick back, which may occur when a Core bit gets stuck. Maintain a firm grip, in order not to drop the machine, too. Use extra care when you are on ladders, roofs, scaffolds, ...etc.
2. When drilling through floors, the core will be likely to fall down from inside of the Core-Bit. Under these circumstances, provide proper protections for people and property below the coring area. For example, fencing around the particular area down floor, making the place "KEEP OFF" ...etc.
3. Never yank the cord to disconnect it from the socket. Keep the cord away from heat, oil and sharp edges.
4. Plug is essential for safety. Never connect directly to distribution board without using a plug for fixed installation.

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5. **This machine must not be used for drilling upwards for electrical reasons. When drilling horizontally on the wall, use of water collection device is highly recommended.**
6. Always compare the voltage value on your Core Drill with your proper supply source. The power supply source should not vary more than 10% from the voltage figure shown on the decal on the drill motor.
7. Do not operate the machine alone. Make sure you can contact someone in the event of accident.
8. Do not allow anyone near the machine when starting or operating. Keep bystanders, children, and visitors away from the machine and cable.
9. Avoid body contact with earthed or grounded surfaces (e.g. pipes, radiators, ranges, refrigerators).

IMPORTANT OPERATING INSTRUCTIONS

1. Ensure that the adequate water is supplied to the Core-Bit during operation, unless Dry-Bit is used. Do not allow excessive heat to be generated at segments of the Core-Bit. The overheat may result in breakage of the segments, and may lead to injury of the operator.
2. Do not block the cooling air inlets of the Drill Motor. If the inlets are blocked, the cooling might be insufficient and the Drill Motor could burn.
3. Do not let water get into the Drill Motor. The water in the motor can decrease the insulation capacity and the Drill Motor could burn out. Also, do not expose the Drill Motor to rain or snow.
4. Do not push the Core-Bit too hard. Too much pressure on the Core-Bit will decrease the drilling capacity and might burn the Drill Motor.
5. When the tool is used outdoors, use only extension cord intended use for outdoors use and so marked.
6. When not in use, store the machine in a dry secured place. Keep out of reach of children.

CAUTION

1. Maintain Labels and Name Plates. These carry important information. If unreadable or missing, contact Shibuya's authorized service center.
2. TROUBLE SHOOTING – WHEN YOUR CORE-BIT IS JAMMED
3. Never turn on the switch till the Core-Bit is released if your Core-Bit is jammed during operation, because it will lead to fatal damage of electrical parts in the Drill Motor. (Refer to 12.0 TROUBLESHOOTING for more details.)
4. TROUBLE SHOOTING – WHEN CIRCUIT PROTECTOR TRIPS FREQUENTLY
5. Wait until temperature of bi-metal in the Circuit Protector is cooled down. If you try to continue drilling it may result in the burn of the Circuit Protector.

FEATURES OF THIS MACHINE

OVERLOAD SWITCH AND CIRCUIT PROTECTOR (SWITCH)

This machine is equipped with a Circuit Protector and an overload switch to reduce the risk of damage of the Drill Motor. The Circuit Protector trips when the Drill Motor is overloaded. Too much feeding pressure will cause the Circuit Protector and overload switch to trip frequently. And frequent trip may lead to damage on the Drill Motor. Try to operate so as not to make the Circuit Protector trip. When overload switch tripped the black button near the grip handle will pop up. When circuit protector trips at rig-mounted mode, it will turn off the main switch. These devices are not reset until it gets cool. If the overload switch does not stay in or if the main switch does not stay at the ON position, wait a few minutes and try again.

CLUTCH SYSTEM

This machine has an Inner Clutch System to protect gear parts. If Core-Bit is suddenly jammed due to the presence of piece of iron or similar materials, Spindle and gear parts are subject to severe shock. The Clutch System plays an important role in such situations by relieving the shock. The Clutch System only operates if the gear parts are subject to potentially damaging shock.

UNDER-VOLTAGE-DROPOUT

The built-in under voltage dropout in a main switch for rig fixed mode or under-voltage-dropout in the PRCD cuts off the main power supply when voltage is dropped. The purpose of under-voltage-dropout is initially to avoid the sudden restart after power failure, secondary to protect operator and machine from under-voltage-condition. Under-voltage occurs under the following condition.

- 1) Power supply is insufficient.
- 2) Too long extension cable is used.
- 3) The size of extension cable core is insufficient.

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4) Electric leakage

VARIABLE SPEED CONTROL TRIGGER

At hand held operation, you can adjust the spindle speed by depressing or releasing the trigger. The drill is designed to generate its full power when the trigger is fully pressed. When you start drilling, you can run the Core-Bit very slowly. As the Core-Bits segments going into concrete, you can increase the spindle speed gradually. And when you get a kickback from the jamming Core-Bit, merely releasing the trigger can reduce the machine power.

HOW TO OPERATE THIS MACHINE

CHOOSE PROPER REVOLUTION SPEED

RH1531 has a 3-Speed Gearbox. "H" is a high-speed range, "M" is a middle speed range, and "L" is a low speed range.

A proper speed range should be decided, based on the diameter drilled. Refer to the following tables. Note this table is merely reference. Maximum drilling diameter depends on the hardness of concrete, aggregate, size of rebar, drilling depth etc. However, do not exceed the maximum diameter.

Model	Speed Range	Hand Held	Rig Mounted	Rev. (No-Load)	Drilling Diameter Recommendation
RH1531	H			4150min-1	14.5mm to 25mm (1/2" – 1")
	M			2000min-1	27mm to 65mm (1 1/8" – 2 3/8")
	L			800min-1	65mm to 180 mm (2 1/2"-7")

DANGER!!!

Never use Speed Range-L at hand held operation. The drill motor generates highest torque at Low gear range, especially at the moment when core bit gets stuck. Failure to obey this instruction may result in serious injury.

Before plug into power supply, shift the gear selector to choose proper gear by turning the spindle of drill by hand.

CAUTION!

Do not shift the gear while the drill motor is running. It may result in the damage of whole transmission gear system.

OPERATING PROCEDURE BY HAND HELD

1. Insert the plug into power outlet. Turn on PRCD after testing it.
2. Turn the Water Cock to supply water.
3. Hold the drill firmly and touch the drilling object gently with the core bit at slight angle.
4. Pull the variable trigger switch a little and cut a shallow groove of approx. 3mm (1/8") depth.
5. Align the drill at 90 degree against the drilling object. Pull the trigger deeply to raise the spindle speed and power.
6. Continue to apply moderate pressure, so as not to trip the overload switch.
7. While drilling pay attention to keep 90 degree against drilling object.
8. When you reach the desired depth, (or penetrate the object), pull out the drill.
9. Release the variable trigger and stop supplying water. Then disconnect from main power supply.

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