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OPERATIONS MANUAL

CORE DRILLING MOTOR

DBM 31PH

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1. INTRODUCTION

1.1 Important Information

This manual is written for users of the **DBM 31PH** and contains information on setting up, operating and maintaining the **DBM 31PH**. This manual is only applicable to the **DBM 31PH** Core Drilling Machine. You will find the machine type designation on the type plate mounted on the machine.

2. GENERAL INFORMATION

Read through the operator's manual carefully and understand the contents before using the core drill rigs.

1. Warning! Do not wear loose clothing such as ties, rings, bracelets or any other jewellery, as they could be caught by the machine during operation.
2. Always wear safe shoes with a non-slippery sole, safety glasses or a visor. A hairnet is recommended for long hair. Use face and dust mask when the drilling procedure is dusty.
3. Do use the machine and its accessories exclusively for the work it's intended for.
4. For your work's safety and efficiency, please check if any part may be damaged before starting the machine.
5. Check all fasteners to ensure that no fastener is loose before switching ON.
6. For stable and safe performance, please use the appointed or authorized core bits.
7. Do not run the machine under unmanned operation.
8. Do not, under any circumstance, touch the running core bits.
9. Take care that all non-operators keep a safe distance from the machine, especially children.
10. To avoid accidents, the throttle should be in idle state when engine is running, that is, the clutch is in a state of separation to ensure that the core bits is not running.
11. Do not use machine indoors.
12. When the machine is in use, it should be more than 3 feet away from flammable substances and materials.
13. Do not smoke or allow naked flames in the area around the running machine while it is running.
14. Check the engine oil level before starting the machine. Do not start the engine in the absence of oil.
15. Always switch OFF the engine before checking the oil level or re-oiling. In the horizontal position, the oil level from oil filler hole should be 5mm at least, do not overflow when re-oiling.
16. The oil grade: SAE 10W – 30.
17. Check whether there is sufficient fuel before starting the machine. Enough fuel helps to start the engine normally.
18. Always switch OFF the engine before checking the fuel level or refueling. In the horizontal position, the fuel level from fuel filler hole should be 10mm at least, do not overflow when refueling.
19. The fuel grade: unleaded petrol, octane number 86 or above grade.
20. Before switching ON, check whether air filter is clean, and no damage, no dirt.
21. Check core bits before switching ON to ensure that the core bits connect correctly, and there is no debris inside.

22. Check cooling system before switching ON to ensure smooth flow of cooling water and the system works properly.

23. It is strictly prohibited to start drilling in the absence of cooling water.

3. STARTING THE CORE DRILL RIG

When the safety instructions above have been read, start the core drill rig according to the following steps:

1. Switch engine turn-off device to the ON position.
2. If cooler start, shift air valve to the CLOSED position (if heater start, air valve can be directly shifted to the OPEN position).
3. Press the fuel pump several times until there is fuel in the fuel-return tube.
4. Open the cooling valve (just small flow), to be increased when drilling.
5. Adjust throttle valve to make it in the appropriate position.
6. Adjust the machine location to ensure that the core bits (rotating part) do not contact with any objects.
7. Pull starter handle lightly, further pull until resistance to start the engine.
8. Adjust the throttle valve to enable the engine in idle state.
9. With the engine temperature increasing, shift the air valve to OPEN position.
10. Adjust the throttle valve to enable the engine speed has ideal position, lock throttle position, and you can start your work.

**Note: do not apply too much pressure while drilling: push machine appropriately with a constant power.
Do not use machine in a dangerous environment. A messy work environment will lead to accidents.**

4. STOPPING THE CORE DRILL RIG

Follow the steps below to stop the core drill rigs:

1. Take out the core bits when it's running.
2. Adjust throttle valve to enable the engine in idle state.
3. Switch engine turn-off device to the OFF position.
4. Turn off the cooling water switch.

5. MAINTENANCE

Maintenance for core drill rigs:

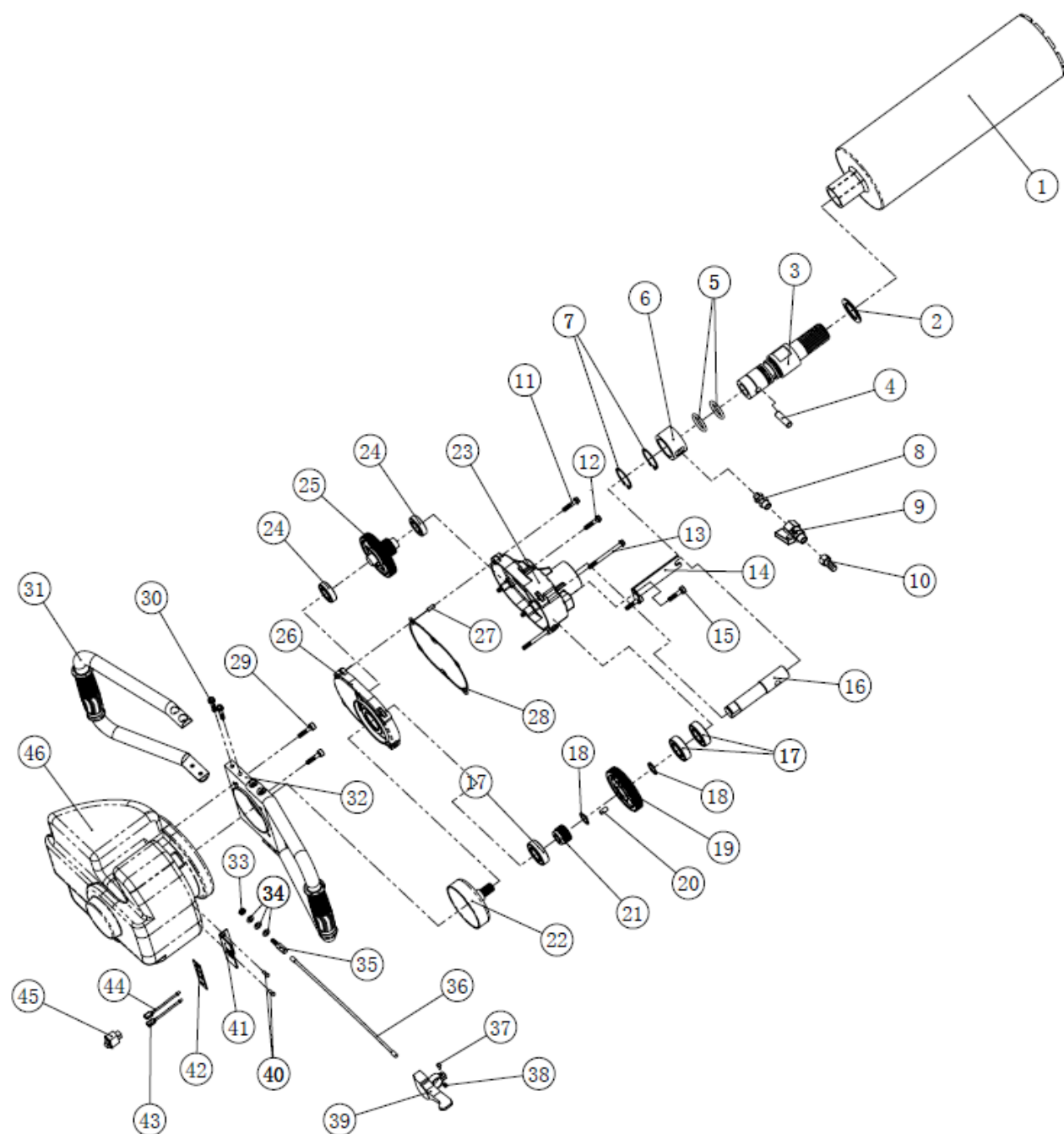
1. After each use, rinse core bits immediately, and blow-dry it.
2. The machine should be stored in clean, dry, ventilated environment.
3. Engine oil has to be changed after using 10 hours for new machine or each 50 hours use.
4. After 100 hours use, inspect and remove the cumulative carbon on the engine spark plugs, than check and adjust spark plug gap to 0.6mm.
5. The regular maintenance of machines is necessary.

6. TECHNICAL PARAMETERS

ENGINE MODEL	GX35T
DISPLACEMENT	35.8CC
MAXIMUM POWER	1.2KW/7000RPM
MAXIMUM TORQUE	1.9NM/5500RPM
COOLING SYSTEM	FORCED AIR COOLING SYSTEM
SPARK PLUG	CMR5H (NGK)
MAX. SPEED OF CORE BITS (W/ DECELERATION DEVICE)	777RPM
MAX. CORE BIT DIAMETER	160MM
CORE BIT CONNECTING THREAD	G 1-1/4--7
WEIGHT	9.7KG

7. PARTS LIST AND EXPLODED VIEW

No.	Name and spec	Quantity
1	Bit	1
2	Copper washer	1
3	Connecting shaft	1
4	Connecting shaft pin	1
5	O-ring $\phi 35 \times 3.5$	2
6	Copper sheath	1
7	Snap spring for shaft $\phi 35$	2
8	Cooling water connector	1
9	Cooling water switch	1
10	Quick-change connector assembly	1
11	Hexagonal bolt $M6 \times 30$	2
12	Hexagonal bolt $M6 \times 45$	2
13	Hexagonal bolt $M6 \times 60$	2
14	Cooling water fixing plate	1
15	Inside hexagonal bolt $M6 \times 10$	2
16	Output shaft	1
17	Big-end bearing 6004-2Z	3
18	Snap spring for shaft $\phi 20$	2
19	Output shaft gear	1
20	Output shaft gear pin	1
21	Clutch plate fixed gear	1
22	Clutch assembly	1
23	Gear box body	1
24	Pinion bearing 6003	2
25	Middle gear assembly	1
26	Gear box cove	1
27	Box body positioning $\phi 5 \times 12$	2
28	Gear box washer	1
29	Inside hexagonal bolt $M6 \times 18$	2
30	Hexagonal bolt $M6 \times 20$	8
31	Handle assembly	2
32	Connection plate	1
33	Flat nut M6	1
34	Washer $\phi 6$	3
35	Throttle cable adjusting bolt	1
36	Throttle cable assembly	1
37	Square nut M5	1
38	Fixing screw $M5 \times 18$	1
39	Throttle controller assembly	1
40	Fixing plate screw $M5 \times 10$	2
41	Choke switch fixed plate	1
42	Switch sticker	1
43	Choke switch wire(1)	1
44	Choke switch wire(2)	1
45	Choke switch	1
46	Engine assembly (HONDA)	1





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