

DPD-100 Gasoline Pile Driver



User Manual

Thank you for choosing our Petrol Post Driver.

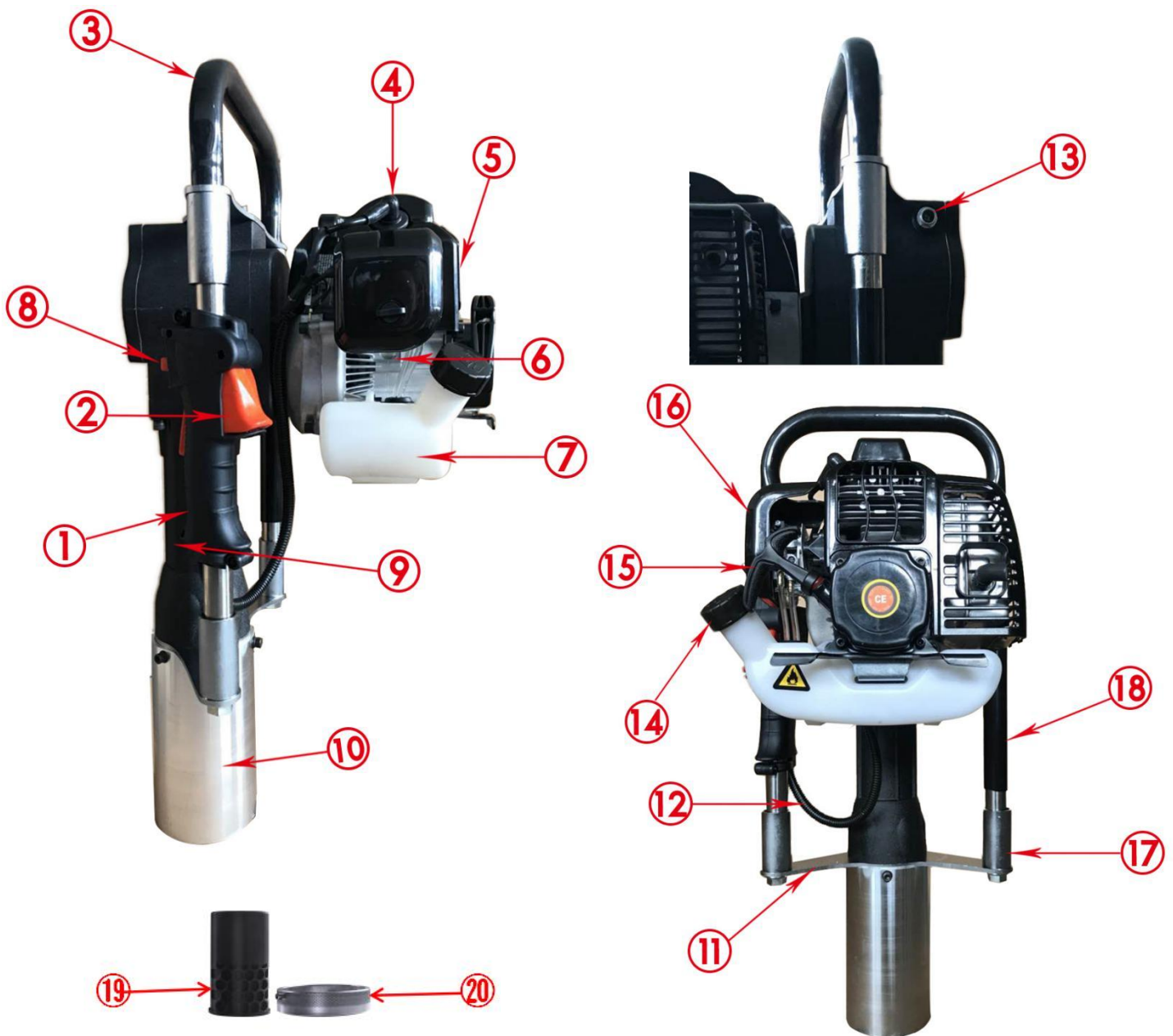
The manual targets at DPD-100 pile driver produced by our company and offers instructions. The pile driver produced by our company stresses is easy to operate and maintain and boasts long service life.

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1. Name of Main Parts

No.	Name of Part	No.	Name of Part	No.	Name of Part
1	Combination Switch	2	Throttle Switch	3	Handle
4	Spark Plug	5	Intake Switch	6	Fuel Bubble
7	Fuel Tank	8	Stop Switch	9	Hammer Case
10	Piling Socket	11	Support Plate	12	Throttle Cable
13	Lubricating Oil Filling Port	14	Fuel Tank Lid	15	Starter
16	Air Filter	17	Positioning Sleeve	18	Grip
19	80mm sleeve	20	Retainer		



2. Description of Safe Operation

1. The operator must wear slip-resistant safety shoes and suitable clothing. For long-time operation, he or she must wear goggles, the helmet and earplugs.
2. While operating the machine, please keep balance of body; the user shall stand in front of Air Filter and operate the machine. While operating the machine, do not smoke, eat or chat.
3. After starting the machine, do not carry out one-handed operation.
4. While lifting the machine, do not pull Throttle Switch, and carry out idle-speed operation of the machine.
5. Non-staff shall stay away from operating area to avoid injury.
6. Select the medium speed to operate pile driver.
7. Keep the handle dry and clean without greasy oil or fuel mixture.
8. If operation is stopped midway; be sure to turn off the engine.
9. Every time, be sure to check whether fastening screws of the connector is tightened before use. If it's loose, it's necessary to tighten the screws before use.
10. Pure gasoline (without two-stroke engine oil) is forbidden. Compound it according to the recommended ration of fuel in Chapter 4.2 for use.
11. Gasoline is highly flammable. Therefore, replenish fuel in a well-ventilated environment. During fuel filling, gasoline engine must be turned off.
12. Do not add too much oil. The oil shall not exceed the neck of oil filter of Fuel Tank. If fuel spills, wait until the fuel volatilizes completely and then start the machine.
13. After refueling, tighten the oil lid. During work, check whether Fuel tank is damaged and spills frequently. If damage is found, close down the machine immediately for replacement.
14. Reserve oil in storage areas. Remove hidden troubles of fire or open flame.
15. While pile driver is used in closed areas such as tunnels, trenches and deep groove, it's necessary to guarantee normal air circulation to avoid waste gas poisoning and suffocation.
16. Forbid quick acceleration or braking so as not to damage the machine.
17. Before transport, empty fuel inside Fuel tank to avoid leakage.
18. Non-professional maintenance staff are prohibited from dismounting pile driver to avoid structural damage of parts, shortened service life of pile driver or accidents.

3. Main Purpose and Function

3.1 Purpose: It can be used for outside piling operation in farms, orchard fences or barriers.

3.2 Function

3.2.1 It is a handheld gasoline pile driver which boasts light weight and low discharge capacity.

3.2.2 The product conforms to design of man-machine engineering, reduces working strength of the operator to the greatest extent, and boasts simple and comfortable operation. The operator can achieve 360° all-around operation.

3.2.3 It can regulate impact energy and impact frequency and be applied to a variety of piles less than 99mm in diameter.

3.2.4 Advantage: Save the trouble of using heavy machines such as generator, air compressor, and trucking-lorry.

3.2.5 The operating handle of the machine is rubber and plastic sponge handle which can greatly reduce the recoil force of the machine. It's installed with two-way Damping Spring which makes the user more comfortable.

4. Preparation before Use

4.1 Piling adapter and sleeve

4.1.1 Install Piling adapter of specifications of 100mm which are suitable for the pile size. See Fig.3, Fig.4 for the knob.



Fig.3



Fig.4

4.1.2 For piling posts below 80mm, it's better to use small sleeves. Insert 80mm plastic sleeve into 100mm adapter and then use retainer to fix.



Fig.5



Fig.6

4.2 Fuel

Use Mixed oil (25 Gasoline:1 motor oil)

4.2.1 Add fuel in a well-ventilated place.

4.2.2 Do not add too much oil. The oil shall not exceed the neck of Fuel Tank Filling Port. If fuel spills, wait until the fuel is removed or volatilizes completely and then restart the machine.

4.2.3 After refueling, tighten the lid of Fuel tank.

5. Starting

5.1. Before starting the new machine, press the transparent and semi-circle fuel bubble repeatedly (Fig.7) until carburetor is filled with fuel. (If the engine is cool, close the air door. Open air door after starting.)



Fig.7

5.2. Set the machine upright. Hold the upper part of handle tightly with one hand while the other pulls the pulling handle of starter for over 50cm quickly. Do not let the pulling handle go back freely in repeated pulling but hold it tightly to avoid injury resulting from quick resilience.

5.3. Start the gasoline engine and then open air door completely. After idle operation of 5 minutes, start normal work.

6. Operation

6.1 After the gasoline engine is started, first carry out idle operation of 5 minutes to warm up the machine.

6.2 When the gasoline engine is warmed up, press throttle handle to the appropriate regulatory position according to the required impact energy.

Note: The new gasoline pile driver use shall mainly boast low or medium-speed for work in the first 20 hours of operation and the maximum throttle shall not be used in order to extend the service life.

6.3. Operating speed of gasoline engine shall be at medium speed.

6.4. High-speed operation of pile driver during non-piling is prohibited.

7. Turning off the Machine

7.1 Release throttle handle and carry out idle running of the machine for 3-5 minutes.

7.2 Pull Stop Switch to the position of flameout. See the position of Stop Switch in Fig.8.



Fig.8

8. Technical Maintenance

8.1 Air Filter

Check air filter regularly. Soot deposit blocking filter element of air filter will reduce power of gasoline engine and service life. If the filter has too much soot deposit, clean it with warm water and detergent, and then wipe dry it with dry cloth, and then install the air filter. Filter should be replaced if damaged. Particularly if it's in the environment of much dust, maintenance cycle shall be shortened properly.

8.2 Fuel filter

If the fuel filter is blocked, pile driver will have reduced speed and weaker impact energy.

Method: ① Open the tank lid. Get out the fuel filter from Fuel tank with metal hook and clean it.

②When cleaning the fuel filter, clean the fuel tank at same time as it's shown in Fig.7, 8 and 9.



Fig.9



Fig.10



Fig.11

8.3 Carburetor

Fuel tank and carburetor generally have residual oil. After some time, the residual oil will become greasy oil which block up the oil line, causing that the engine can't be started. Therefore, when the machine is not used for more than one week, be sure to completely take the fuel out. Method: Pull out the oil inlet pipe, press rubber bubble of Fuel Bubble of Carburetor repeatedly for oil discharge, and press the oil inlet pipe back to its position when fuel in Fuel Bubble and oil return pipe is emptied.

8.4 Spark Plug

To ensure normal operation of the engine, spark plug gap must be proper. Remove sediment with a wire brush. Proper gap of Spark Plug is 0.5-0.7 mm. See Fig.12.

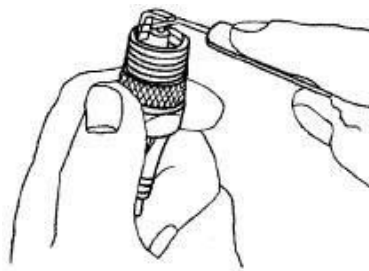


Fig.12

8.5 Muffler

Regularly remove dirt on inlet and outlet of muffler, or clean dirt in it with detergent.

8.6 Gearbox lubrication

Open the cover of the gear boxes, and lubricate the driving gear regularly with lubricating oil to guarantee full lubrication of the gear.

8.7 The cylinder heat sink

Regularly remove dust to ensure the cylinder cooling. The gasoline pile driver is air-cooling type. If dust accumulates on the cylinder heat sink, the cooling effect will be influenced directly, which will lead to failure of the cylinder.

8.8 Filling of impact cylinder lubrication

After working for an accumulated 50 hours, fill special lubrication of 50ml for the impact cylinder. See Fig. 13,14,15



Fig.13



Fig.14

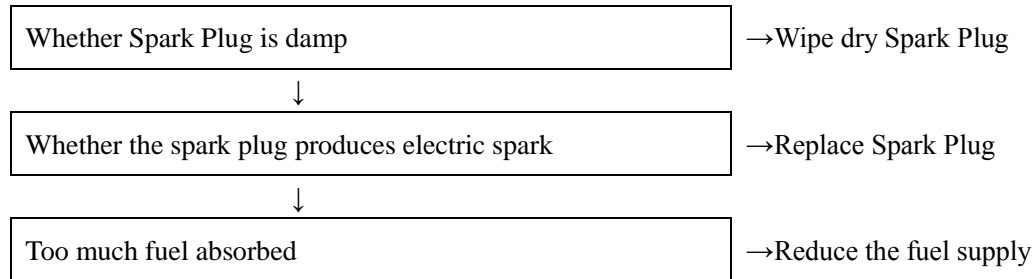


Fig.15

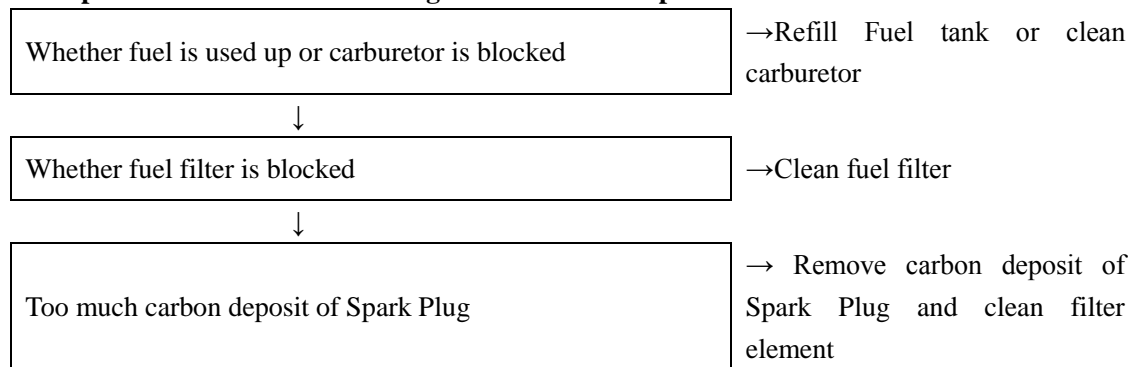
9. Failure Analysis and Troubleshooting

Problem analysis and solving

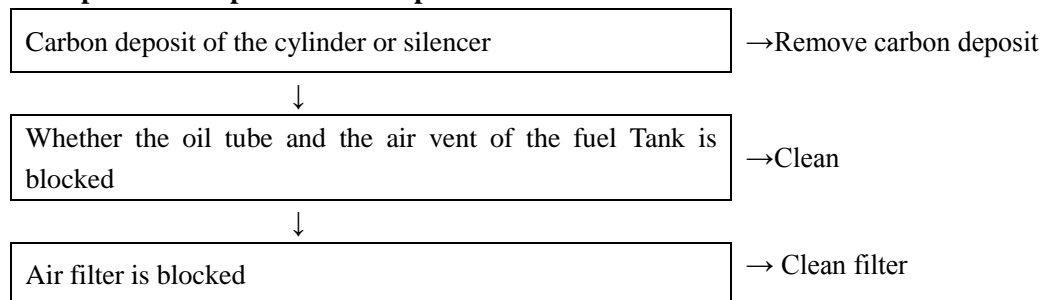
Example 1: Difficulties in starting engine in cooling state.



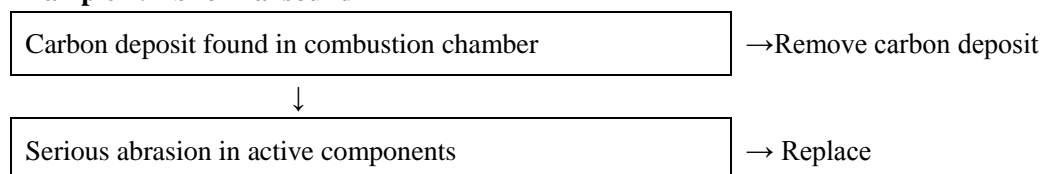
Example 2: Difficulties in restarting after a sudden stop



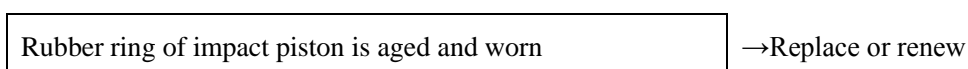
Example 3: Slow speed and weak power



Example 4: Abnormal sound



Example 5: The machine is working normally but the work efficiency is very low



Please contact with local Sales Agent or contractual maintenance site for maintenance.

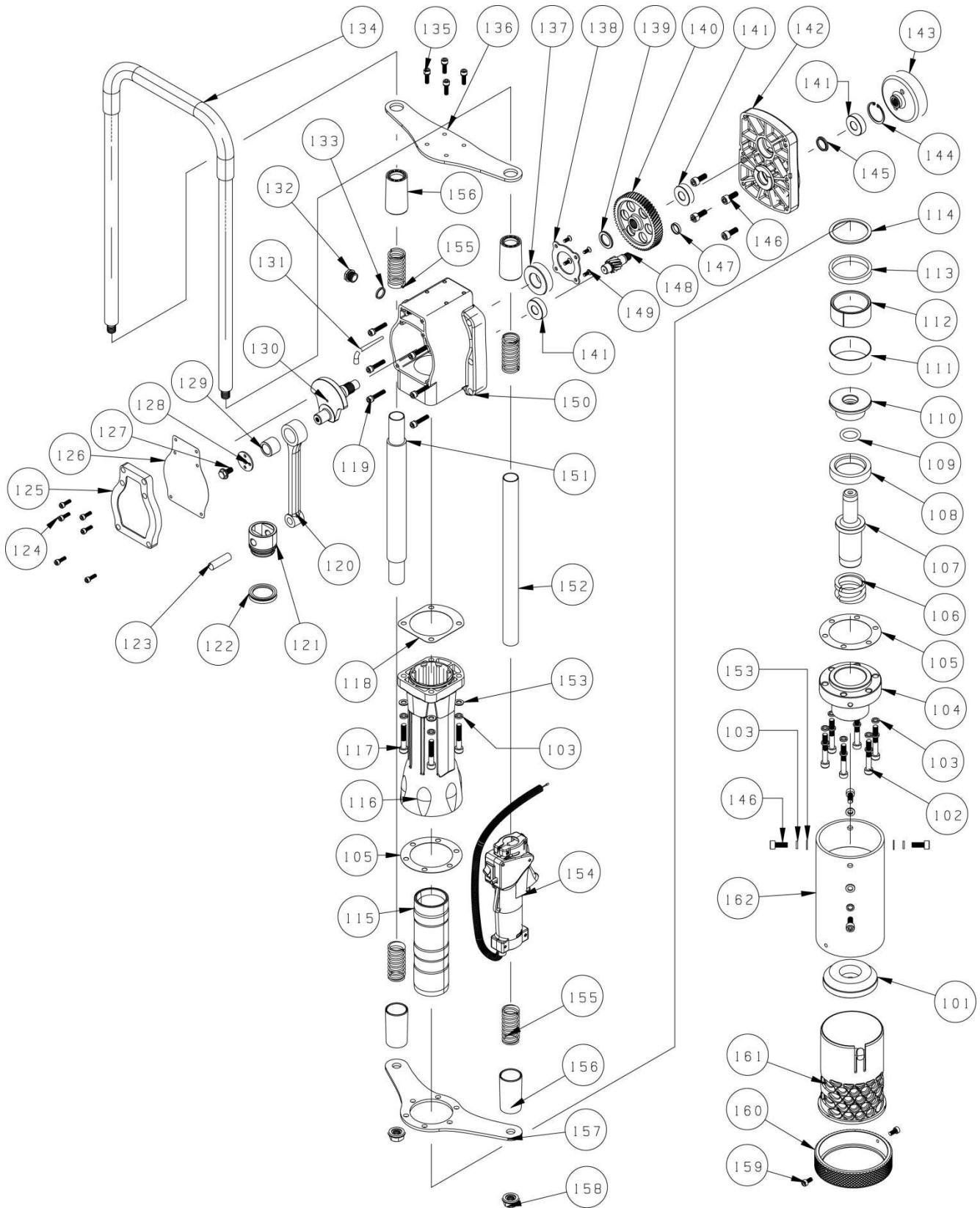
10. Key Data of Product

Engine type	Single cylinder, air cooled, 2-stroke, Gasoline engine
Model	DPD-100
L×W×H	85.5×33×46.5cm
Fuel	Mixed oil (25 Gasoline:1 motor oil)
Fuel tank capacity	1L
N.W/G.W	18.5/28.5kg
Displacement	51.7cc; 49cc (EPA, EURO V)
Max power and speed	1400W(1.9HP)/6500r/min
Max torque and speed	1.3(ft/lb)/5500(r/min)
Fuel consumption rate	≤610g/Kw.h
Impact frequency	820~1200 RPM
Impact energy	25-50J
Carburetor type	Diaphragm type
Starter system	Hand pull start

11. Maintenance Cycle

The following Data are common data of the product. Under worse working conditions such as thick dust or long work hours of pile driver, the maintenance cycle should be shortened correspondingly.		Before work	After work or every day	After Filling oil	Every Week	Every Month	Temporary Failure	If necessary
The whole machine	Outlook check (state, tightness of screws)	√		√				
	Clean		√					
Control handle/stop button	Function check	√		√				
Air Filter	Clean				√			√
	Replace						√	
Fuel Filter	Check					√		
	Replace						√	
Petrol Tank/Petrol Tank cover	Clean		√	√				
	Check	√		√				
	Tighten							√
Gear Box/Cylinder	Clean					√		
	Add oil							√
Silencer	Check					√		
	Remove carbon deposit							√
Cylinder Cooling Fin	Check					√		
	Clean							√
Spark Plug	Check/Adjust the distance between electrodes					√		
	Replace							√
Screw and Nut	Check	√		√				
	Tighten							√

12. Parts List and Exploded View of DPD-100 Pile Driver



No.	Name	Qty.s	No.	Name	Qty.s
101	Hammer block	1	133	Oil leveler leather collar	1
102	M8X55 Hexagon socket head screw	6	134	Handle	1
103	ø8 spring washer	20	135	M6X20 hexagon socket cap screws, washers combination	4
104	Metal head	1	136	Upper support plate	1
105	Round paper washer	2	137	Bearing 6205	1
106	Buffer spring	1	138	Gland 6205	1
107	Impact hammer	1	139	Shaft Retainer	1
108	Large rubber band	1	140	Big gear	1
109	O ring (Shank adapter 23.6*5)	1	141	Bearing 6202	3
110	Shank adapter	1	142	Center cover	1
111	Broken ring gum cover	1	143	Clutch drum	1
112	Broken ring	1	144	Circlip 35	1
113	Small rubber band	1	145	Framework oil seal 25X19-3	1
114	Air cylinder gasket (59*69-2)	1	146	M8X12 Hexagon socket head cap screws	8
115	Air cylinder	1	147	Gland cover	1
116	Front placket	1	148	Gear shaft	1
117	M8x45 Hexagon socket head screw	4	149	M5X12 Sunk screw	4
118	Gasket for front placket	1	150	Gear box	1
119	M6x30 Hexagon socket head screw, srping washer assembly	6	151	Handle	1
120	Connection rod	1	152	Tube as handle	1
121	Impact Piston	1	153	Ø8 plain washers	8
122	Lip ring	1	154	Switch block	1
123	Round pin 12x44	1	155	Reduction spring	4
124	M5x16 Hexagon socket head screw, spring, flat washer assembly	6	156	Spring pocket	4
125	Cover for gear box	1	157	Under support plate	1
126	Paper washer for gear box	1	158	M14 Flange gear nut	2
127	Flange hexagon screw M8x16LH	1	159	M6X12 Hexagon socket head screw	2
128	Pressing plate	1	160	Retainer	1
129	Quill bearing NK18/20	1	161	60-78mm piling sleeve	1
130	Eccentric shaft	1	162	102mm (4") adapter	1
131	Wick	1			
132	Oil leveler	1			