

DPD-100 Gasoline Pile Driver



Operation Manual

Welcome to buy products of our company. 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. Therefore, customers give priority to it.

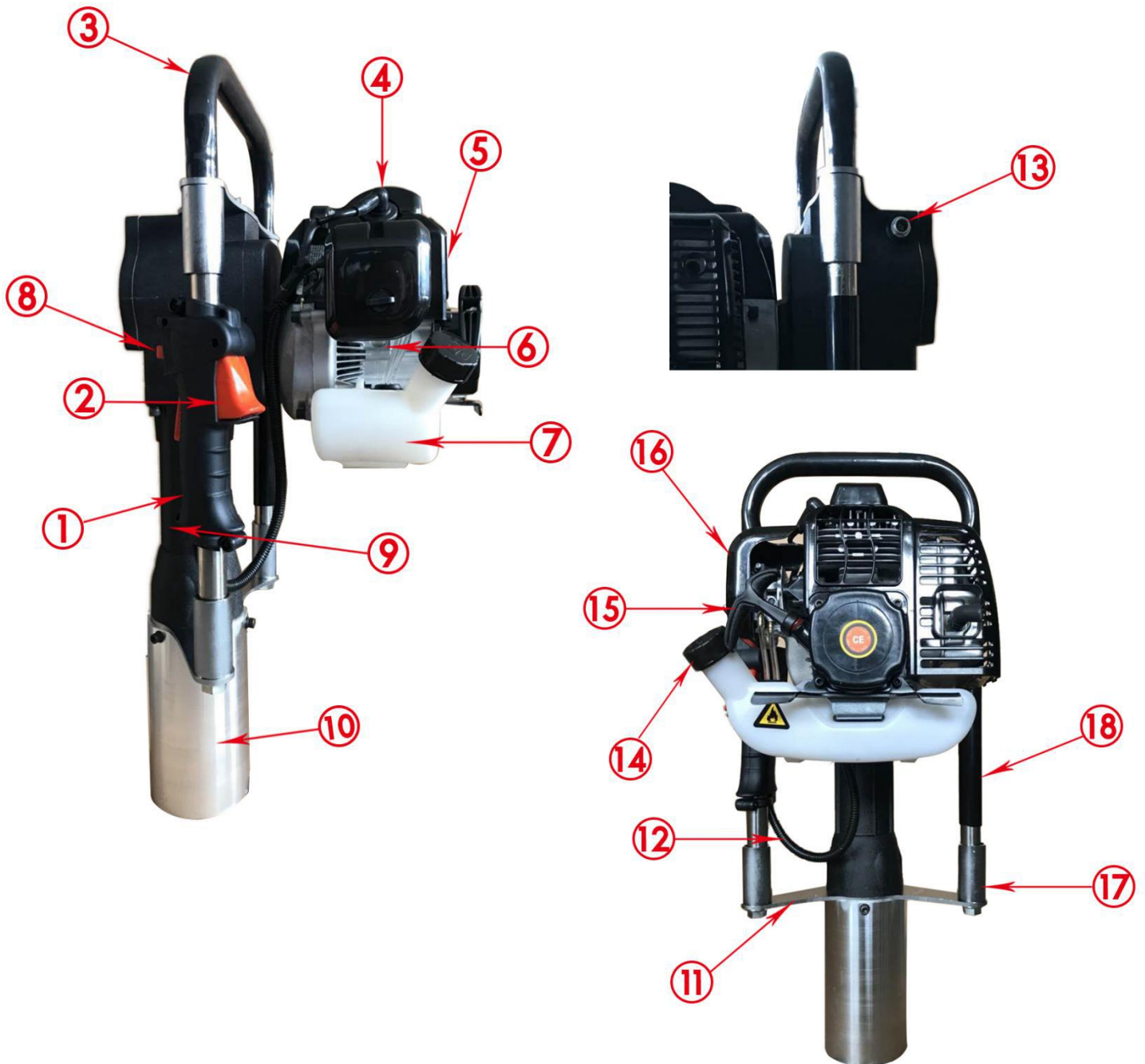
For your safety, please read the manual carefully before using the machine, otherwise physical injury or mechanical damage may be caused.

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I Name of Main Parts

No.	Name of Part	No.	Name of Part	No.	Name of Part
1	Combination Switch	2	Throttle Switc	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



II 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.

III 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.

IV Preparation before Use

4.1 Piling Socket

4.1.1 Install Piling Socket Retainer of specifications of 100mm which are suitable for the pile size. See Fig.3 for the knob.



Fig.3



Fig.4

4.2 Fuel

Use qualified 86 octane unleaded gasoline or higher gasoline

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.

4.2.4 After refueling, tighten the lid of Fuel tank.

V Starting

5.1. Before starting the new machine, press the transparent and semi-circle fuel bubble repeatedly (Fig.5) until carburetor is filled with fuel. (If the engine is cool, close the air door. Open air door after starting.)

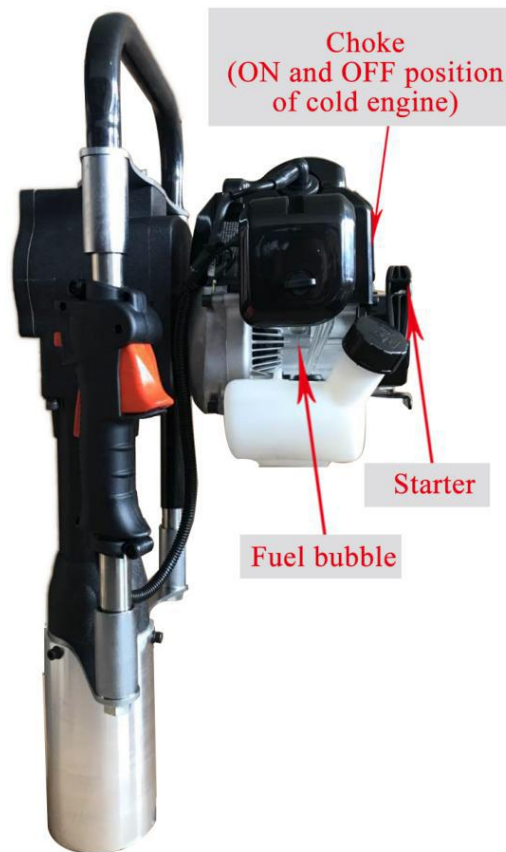


Fig.5

5.2. Set the machine upright according to Fig.4. 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.

VI 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.

VII 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.6.



VIII 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.7



Fig.8



Fig.9

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.10.

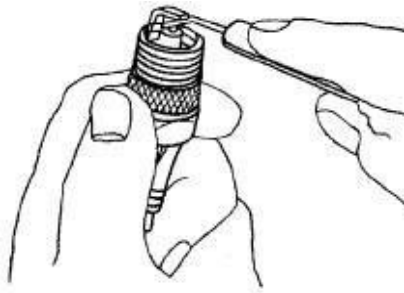


Fig.10

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 50g for the impact cylinder. See Fig. 11,12,13



Fig.11

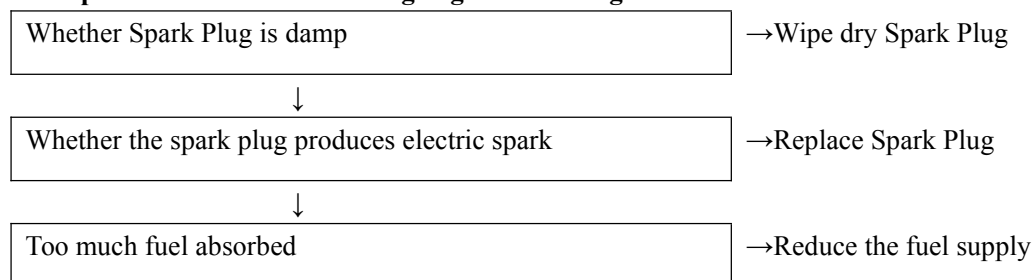
Fig.12

Fig.13

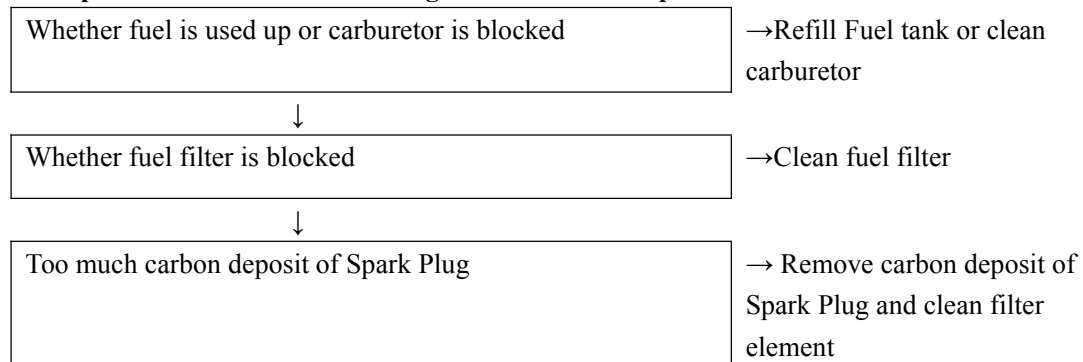
IX Failure Analysis and Troubleshooting

Problem analysis and solving

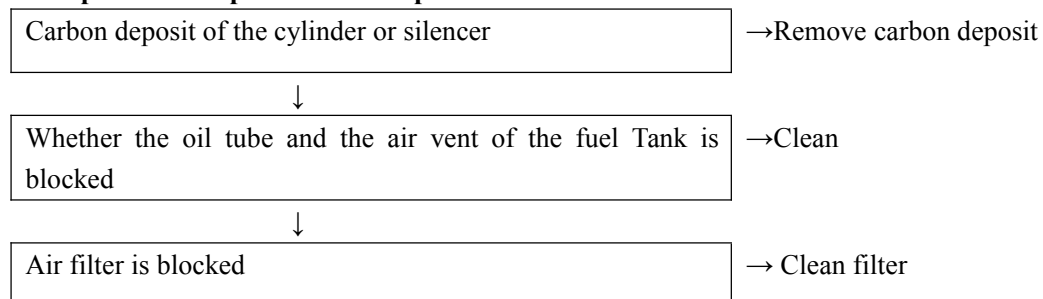
Example 1: Difficulties in starting engine in cooling state.



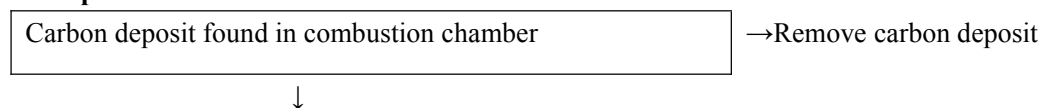
Example 2: Difficulties in restarting after a sudden stop



Example 3: Slow speed and weak power



Example 4: Abnormal sound



Serious abrasion in active components

→ Replace

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

Rubber ring of impact piston is aged and worn

→ Replace or renew

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

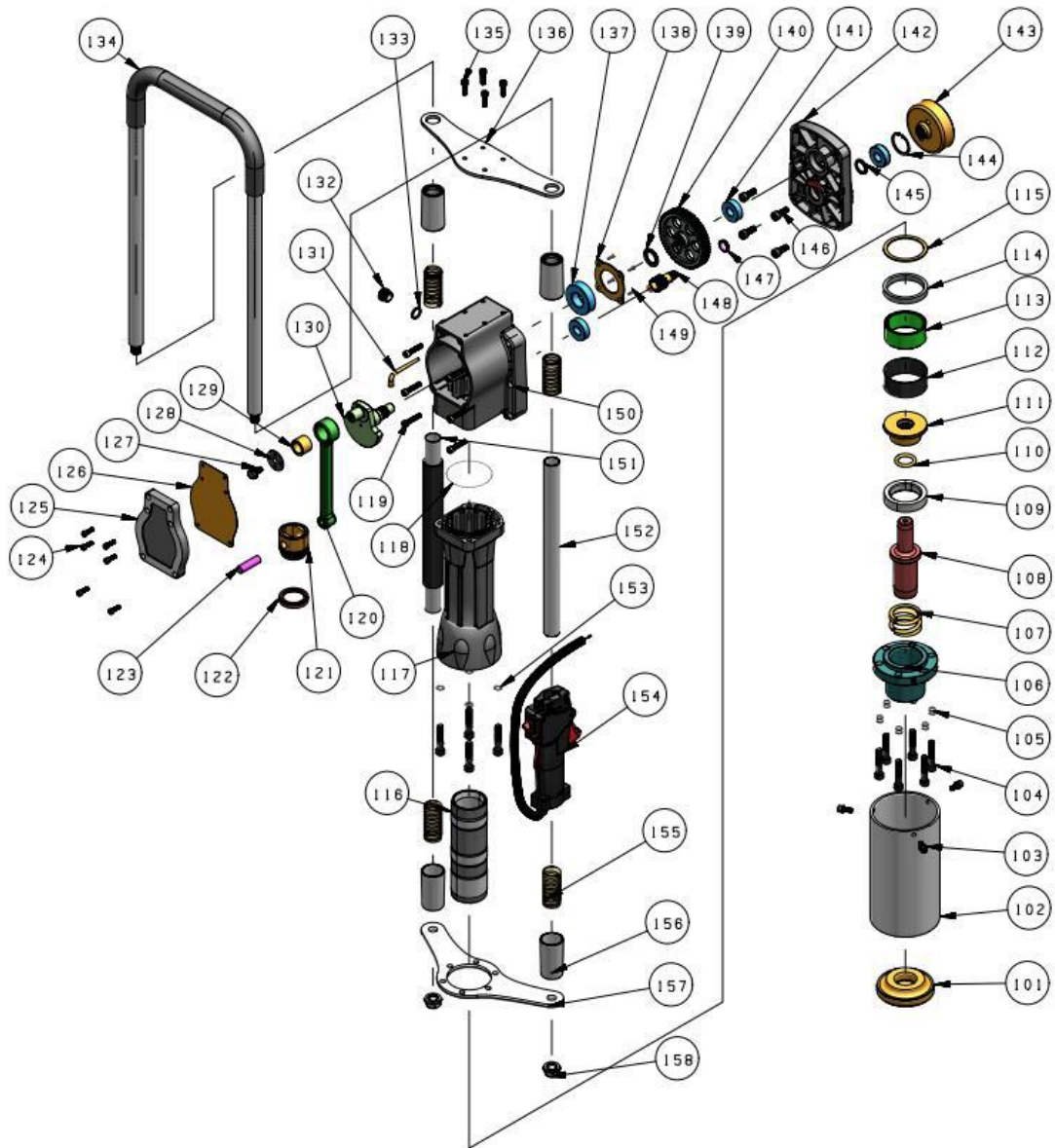
X Key Data of Product

Engine type	Single cylinder, air cooled, 4-stroke, 140FA Gasoline engine
Model	DPD-100
L×W×H(mm)	70X30X34CM
Fuel	86 octane unleaded gasoline or higher
Fuel tank capacity	1L
N.W/G.W	18.5/23KG
Displacement	51.7CC
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
Spark plug type	CMR6A
Starter system	Hand pull start

XI 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							√

XII Parts List and Exploded View of DPD-100 Pile Driver



No.	Description	Quantity
101	Hammer block	1
102	100mm piling socket	1
103	M6X16 Inner hexagon socket screw, washers, plain cushion combination	3
104	M8X45 hexagon socket cap screws	10
105	Φ8 spring washer	16
106	Metal head	1
107	Buffer spring	1
108	Impact hammer	1
109	Large rubber band	1
110	O ring (Shank adapter 23.6*5)	1
111	Shank adapter	1
112	broken ring gum cover	1
113	broken ring	1
114	Small rubber band	1
115	Air cylinder gasket (59*69-2)	1
116	Air cylinder	1
117	Front placket	1
118	O ring 70x67x1.5	1
119	M6X30 hexagon socket cap screws, washers combination	6
120	Connecting rod	1
121	Impact Piston	1
122	Lip ring	1
123	Impact Piston Pin 12x44	1
124	M5X16 hexagon socket cap screw and spring combination	6
125	Cover for gear box	1
126	Paper pad for gear box	1
127	Flange hexagon screw M8X16LH	1
128	pressing plate	1
129	Quill bearing NK18/20	1
130	Eccentric shaft	1
131	Wick	1
132	Oil leveler	1
133	Oil leveler leather collar	1
134	handle	1
135	M6X20 hexagon socket cap screws,	4

	washers combination	
136	Upper support plate	1
137	Bearing 6205	1
138	Gland 6205	1
139	Shaft Retainer	1
140	Big gear	1
141	Bearing 6202	3
142	Center cover	1
143	Clutch drum	1
144	Circlip 35	1
145	Framework oil seal 25X19-3	1
146	M8X12 Sunk screw	4
147	Gland cover	1
148	Gear shaft	1
149	M5X12 Sunk screw	4
150	Gear box	1
151	Handle	1
152	Tube as handle	1
153	Φ8 plain washers	4
154	Switch block	1
155	Reduction spring	4
156	Spring pocket	4
157	Under support plate	1
158	M14 flanged tooth nut	2