POWERTECH POST DRIVER

Model: PPD-80-GX35

CE

WARNING

PLEASE ENSURE YOU READ AND UNDERSTAND THE BELOW BEFORE OPERATING YOUR MACHINE!

Powertech Post Drivers – Important Information/Do's & Don'ts

1) Use Honda Premium 4 Stroke 10W30 engine oil. Honda GX50 engine oil capacity is 130ml while the GX35 engine is 100ml. **DO NOT OVER FILL!!**

2) Post Driver Oil - You can also use Honda 10W30 engine oil to fill the Post Driver oil reservoir (PPD-120 & 100). Remove the Sight Glass to top up the Post Driver oil. The PPD-120 & 100 Post Drivers are not completely sealed – Oil seepage from inside the Chrome Sleeve/Anvil area is a part of normal operation. **DO NOT BE ALARMED.** Top up Post Driver oil as required, do not run dry.

3) **VERY IMPORTANT!** Daily Check - Because of the amount of vibration these machines are exposed too, bolts can work loose and need to be checked regularly. Remove any loose bolts and apply Loctite 263 Thread Locker (Red)

4) **DO NOT DRY RUN** the unit when not on a post. It must be on a post in the working position with downward pressure before you pull the throttle. Dry running may cause the unit to jam or the anvil becoming dislodged.

5) While using your driver find a range between 30-50% of full throttle. This is the most effective strike rate, depending on ground conditions. (i.e., the 'sweet spot') Apply firm downward pressure on the driver, let the driver do the work, not you!

6) **VERY IMPORTANT!** Please take the time to read the owner's manual and highlight the important bits or anything you weren't aware of.

7) The 'HULK' PPD-120 comes with a 120mm alloy strainer post guide fitted. To drive smaller standard steel or Maxy posts etc you need to fit the 100mm alloy guide and sleeve insert. Please ensure when you reinstall any bolts on you Post Driver you apply Loctite 263 Thread Locker (Red) Failure to do so will cause the bolts to vibrate loose and cause damage.

8) **DO NOT** drive small posts with the larger Sleeves/Guides as this may cause damage or excessive ware. The sleeve must be a snug fit around the post you are driving.

User Manual

Thank you for purchasing the Powertech Post Driver and welcome to the Service and Operators manual. Please be sure this manual is read and understood completely before operating or carrying out any maintenance, failure to do so may result in personal injury or mechanical damage to the unit. If you need further information or any clarification on anything described in this manual, please contact your local dealer immediately.

Contents

1. Name of Main Parts

No.	Name of Part	No.	Name of Part	No.	Name of Part
1	Air Filter	2	Fuel Tank Cap	3	Fuel Tank
4	Throttle Button	5	Throttle Cable	6	Damping spring
7	Starter	8	Muffler	9	Oil filler cap
10	Grease Cap	11	Grip	12	Front Placket
13	82mm adapter	14	Stop Switch	15	Gear cover
16	Combination Switch	17	73mm sleeve	18	55mm sleeve
19	45mm sleeve	20	Retainer		

Fig. 1

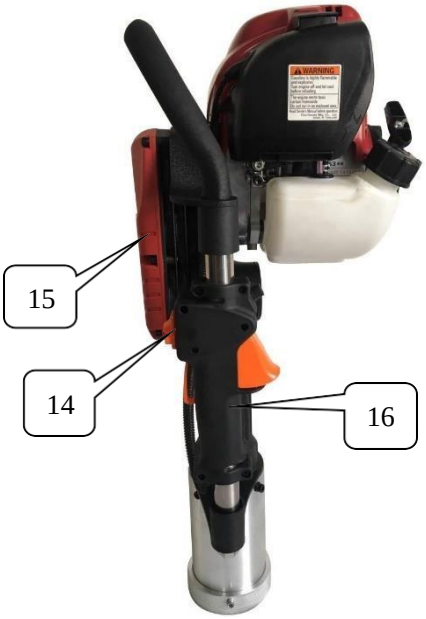


Fig. 2

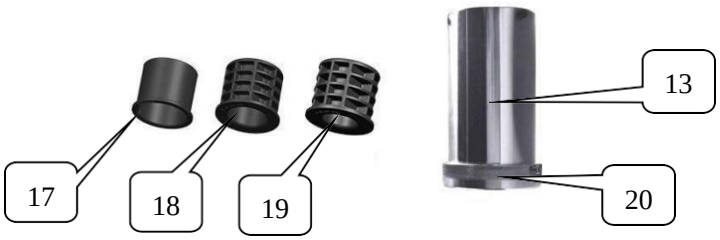


Fig. 3

2. Description for Safe Operation

1. Operator must wear slip-resistant safety shoes and suitable clothing. He or she must wear safety glasses, hard hat, and ear protection.
2. While operating the machine be in a stable position and stand in front of Air Filter to operate. The operator shall not smoke, eat or chat while operating the machine.
3. After starting the machine, do not operate it with one hand.
4. When lifting the machine do not pulled the throttle button.
5. Non-staff shall be away from the operation area to avoid injuries.
6. Operate the post driver at the medium speed.
7. Keep the handle dry and clean from grease, oil or fuel mixture.
8. If operation needs to stop midway; be sure to turn off the engine.
9. Be sure to check whether throttle fastening screws of the connector are tight before use. If loose, tension the screws.
10. Prohibit the use of 2 stroke fuel, refer to Chapter 4.2 for recommended ratios of fuel.
11. Gasoline is highly flammable. Therefore, replenish fuel in a well-ventilated environment. During fuel filling, engine must be turned off.
12. Do not add too much fuel. The fuel shall not exceed the neck of the fuel tank. If fuel spills, do not start the machine until the machine and area is clean.
13. After refueling, tighten the fuel cap. During work, check fuel tank regularly for damage or leakage. If damage is found, shut down the machine immediately.
14. Reserve fuel needs to be stored away from any ignition source.
15. Post driver is NOT to be used in closed off areas such as tunnels, trenches or indoors, it's necessary to guarantee normal air circulation to avoid waste gas poisoning and suffocation.
16. Prevent quick acceleration or braking so as not to damage the machine.
17. Before transport, empty fuel inside the fuel tank to avoid leakage.
18. Non-qualified maintenance staff are prohibited from dismantling the post driver to avoid structural damage to parts, shortened service life or accidents.

3. Main Use and Function

3.1 Use: Post driving Star Pickets, Wooden Stakes and Posts.

3.2 Function

For optimal performance machine should be run at half to three-quarter throttle.

3.2.1 Engine-type handheld gasoline post driver which is light weight and low discharge capacity.

3.2.2 The product conforms to the design of man-machine engineering, reduces working strain 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 drive a variety of posts between 20-80mm (inclusive) in diameter.

3.2.4 Advantage: Save the trouble of using heavy machines such as generator, air compressor and manual post driving.

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 springs which makes for more comfortable use.

4. Preparation before Use

4.1 Post adapter and post sleeves

4.1.1 Install or change post sleeves. Select the corresponding retainer according to the sizes of the post, 45mm, 55mm, 73mm plastic sleeves. Insert plastic sleeves into 82mm adapter and then use retainer to secure.

Fig. 4

Warning:
Pounding posts that are significantly smaller than the adaptor or sleeve will result in instability while using post driver. This may result in injury to the operator and will result in damage to Post Driver. Ensure there is minimum distance on either side of the post so it fits neatly in the barrel. Where there is too much clearance on each side, use a smaller sleeve.

4.2 Fuel

4.2.1 e engine is stopped, add fuel in well-ventilated area away from any ignition sources.

4.2.2 If the engine has just been operated, wait for the unit to cool down before adding fuel.

4.2.3 Do not over-fill fuel tank. The fuel shall not exceed the neck of the fuel tank. If fuel spills, clean the area completely before starting the machine.

4.2.4 Tighten the fuel tank cap after refueling.

4.2.5 The machine uses unleaded fuel. (DO NOT USE 2 STROKE FUEL MIXTURE)

4.3 Engine Oil

4.3.1 To avoid damage to the engine, before starting check whether the engine oil is adequate or needs replacement; check engine oil level every 10hrs of operation.

4.3.2 The engine shall be placed horizontally. Unscrew the oil cap and check the oil level as shown in Fig. 5. If inadequate oil level, add to the upper limit. If oil is too dirty, carry out oil change.

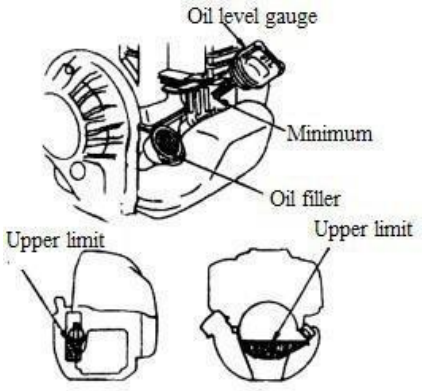
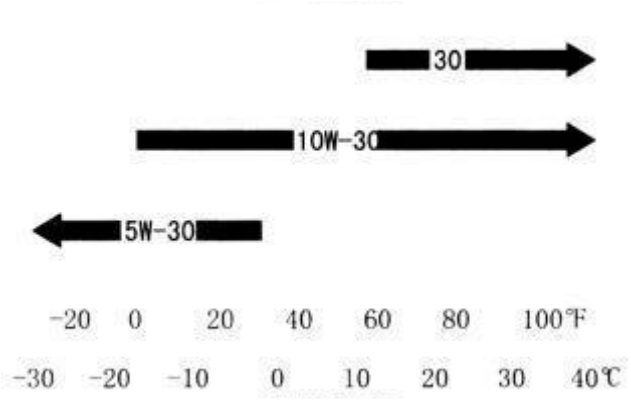


Fig. 5

4.3.3 The recommended environmental temperature of the machine is -15℃ - 40℃. Recommend use of 4-stroke engine oil. SAE 10W-30 engine oil which equals to API classification SE, SF, and SG. Fig. 6 below is SAE Engine Oil Consistence Table.

SAE Engine Oil Viscosity Grade



Environmental temperature

Fig.

4.4 Air Filter

4.4.1 Take apart the cover of the air filter and check v not, clean it.

4.4.2 After the check, correctly install the cover of th

5. Starting

5.1 Before starting the machine, press the priming bu in the the clear-plastic fuel tube. Approx. 5 pumps. (Control Choke. To start cold eng)SED position. Open air door after engine starts. To start warm engine, leave open air door. as shown in Fig.7)

Fig. 7

5.2 Control and grip the top handle tightly with one hand while the other grabs the starting cable.
5.3 Do not let the starter cable go back freely, hold it tightly to avoid injury resulting from quick release.
5.4 Do not pull the handle of the starter during operation, since parts are rotating at high speed it may damage the starter.

6. Operation

6.1 When the engine has warmed up, press throttle button to the appropriate regulatory position according to the required impact energy.
Note: With a new gasoline post driver use shall mainly boast low to medium speed for 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 the gasoline engine shall be at medium speed.
6.4. High-speed operation of the post driver during non-post driving is prohibited and will damage the machine.
6.5. Ensure the post is in a vertical position and the post driver is on in a parallel plane to the post. The correct position as Fig.8.

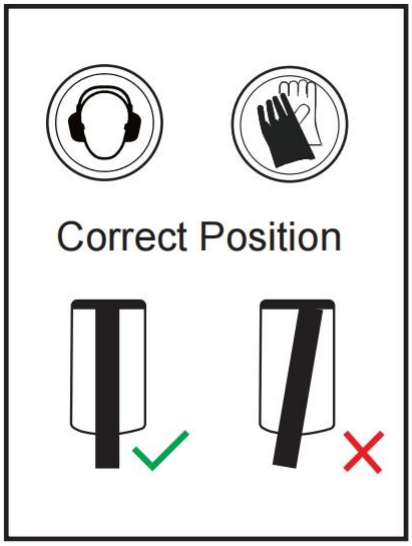


Fig.8

7. Turning off the Machine

7.1 Release throttle button and carry out idle running of the machine for 3-5 minutes.
7.2 Pull Stop Switch to the position of flame-out. See the position of Stop Switch in Fig.9.

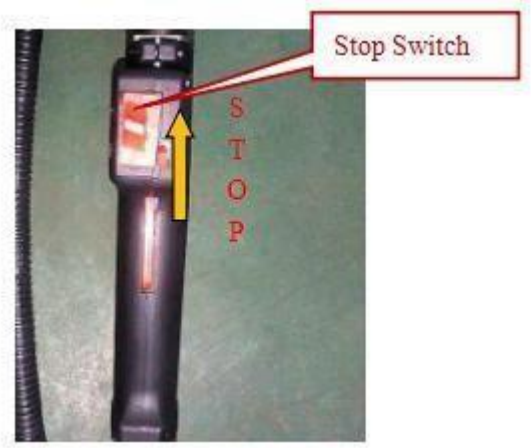


Fig.9

8. Technical Maintenance

8.1 Air Filter

Check air filter regularly. Soot deposits blocking the filter element of the air filter will reduce power of engine and the service life. If the filter has too much soot deposit, clean it with warm water and detergent then wipe with a dry cloth and reinstall the air filter. Filter should be replaced if damaged. Particularly if in extreme environments of dust, maintenance cycle shall be shortened accordingly.

8.2 Fuel filter

If the fuel filter is blocked, the post driver will have reduced speed and weaker impact energy.
Method: ①Open the fuel cap. Get out the fuel filter from the fuel tank with metal hook and clean as required.

②When cleaning the fuel filter, clean the fuel tank at the same time.

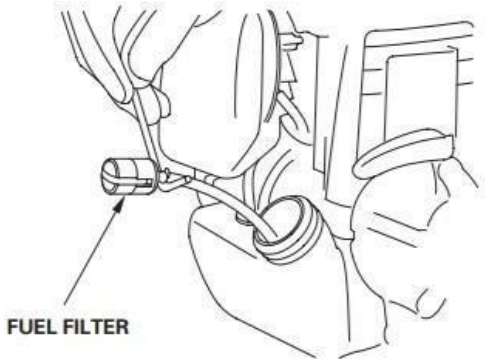


Fig.10

8.3 Carburetor

When the machine is not used for more than one week, be sure to completely drain fuel. Method:
Pull out the fuel inlet pipe, press rubber bubble repeatedly for fuel discharge, and press the fuel inlet pipe back into position when fuel is completely emptied.

8.4 Spark plug

To ensure normal operation of the engine, spark plug gap must be correct. Remove carbon sediment with a wire brush. Correct gap of spark plug is 0.6-0.7 mm. See Fig.11.

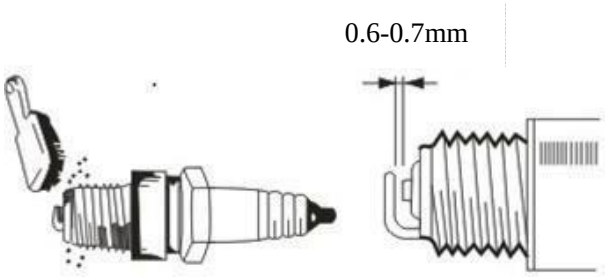


Fig.11

8.5 Muffler

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

8.6 The cylinder cooling fin

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

8.7 Engine oil replacement

8.7.1 Inadequate cleanliness of the engine oil will lower the service life of the engine. Replace the engine oil regularly and keep adequate amount of engine oil in the machine.

8.7.2 Engine oil replacement cycle: replace engine oil after 10 hours of the first use, and then replace every 6 months or after operating for 50 hours.

8.7.3 Drain the engine oil after running the machine for a short period (approx. 5mins) to ensure quick and thorough oil drainage.

8.7.4 Engine oil replacement steps:

a. Make sure the oil cap is tight.

b. Run the machine for a short period (Approx. 5 mins at idle)

c. Put a drain tray beside the machine to hold the waste engine oil.

d. Remove the oil cap, lean the engine towards the oil filler and dump the engine oil into the tray, as shown in Fig.12.

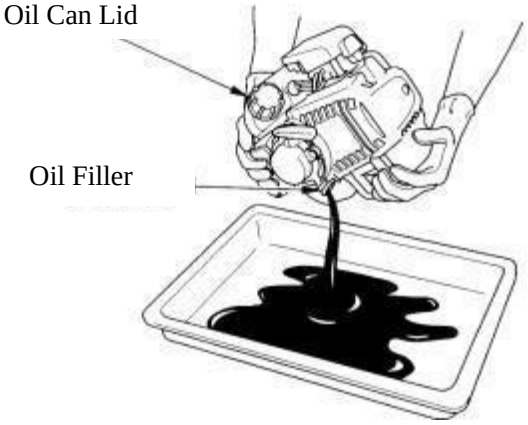


Fig. 12

e. Place the machine horizontally and add the recommended engine oil to the bottom edge of the oil filler. For the correct amount of engine oil, refer to Fig. 5 in the above steps.

f. Add new engine oil after the residual oil is below 100mL. Add oil slowly to the bottom edge of the oil filler.

8.7.5 The recommended environmental temperature of the machine is -15℃ - 40℃. Recommend use of SAE 10W-30 engine oil which equals to API classification SE, SF, and SG.

8.8 Filling of impact cylinder lubrication

After working for an accumulated 50 hours, uncover grease cap, then fill cylinder with approx. 50g of EP2 Grease. Refer Fig.13.

Fig. 13

9. Failure Analysis and Eliminating Methods

Diagnostics & Problem Solving

Example 1: Difficulties starting engine in cooling state

Check whether the spark plug is damp	→Clean and wipe dry the spark plug
↓	
Check whether the spark plug produces spark	→Replace the spark plug
↓	
Check if too much fuel has been supplied	→Let unit sit for 5mins, Reduce the fuel supply

Example 2: Difficulties restarting after a sudden stop

Check fuel level or if the carburetor is blocked	→Refill the fuel tank or clean the carburetor
↓	
Check if the fuel filter is blocked	→Clean or replace the fuel filter
↓	
Check amount of carbon deposit on the spark plug	→ Remove carbon deposit from the spark plug and clean the filter element

Example 3: Slow speed and weak power

Carbon deposit in the cylinder or muffler	→Remove carbon deposit
↓	
Check oil tube and or air intake is blocked	→Clean
↓	
Air filter is blocked	→Clean the filter

Example 4: Abnormal sound

Carbon deposit found in the combustion chamber	→Remove carbon deposit
↓	
Serious internal component failure	→Replace

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

Rubber ring of the impact piston is aged and worn	→Replace

Please contact your local sales agent or dealer for further technical information.

10. Key Product Data

Engine Type	Original Honda GX35 OHC, 4-stroke
Model	PPD-80
L×W×H (mm)	695*300*273
Fuel	Unleaded Petrol 90# or above
Oil Capacity	0.1L
Fuel Tank Capacity	0.63L
Weight	14Kg
Max Torque	1.6Nm@5500rpm
Displacement	35.8CC
Max Power	1kW@7000rpm
Fuel Consumption	360g/KW.h
Impact Frequency	800-1600BPM
Impact Energy	15-45 J
Carburetor Type	Diaphragm-type
Spark Plug Type	Transistorized magneto
Starter System	Hand pull start

11. Declaration of Conformity

We declare under our sole responsibility that our post driver conforms with following standards or standardization documents: in accordance to the regulation of directives 2006/42/EC, 2014/60/EU.

12.Warranty

Powertech Post Drivers are fitted with genuine Honda engines so please make sure you register the engine serial number with your local Honda dealer to claim the 3-year manufactures warranty.

The Powertech Post Driver unit comes with 12 months parts warranty. **Please note this only covers failures due to a manufacturing fault or defective part. Any damage or failure caused by operator abuse or misuse is not covered.**

13. Maintenance Cycle

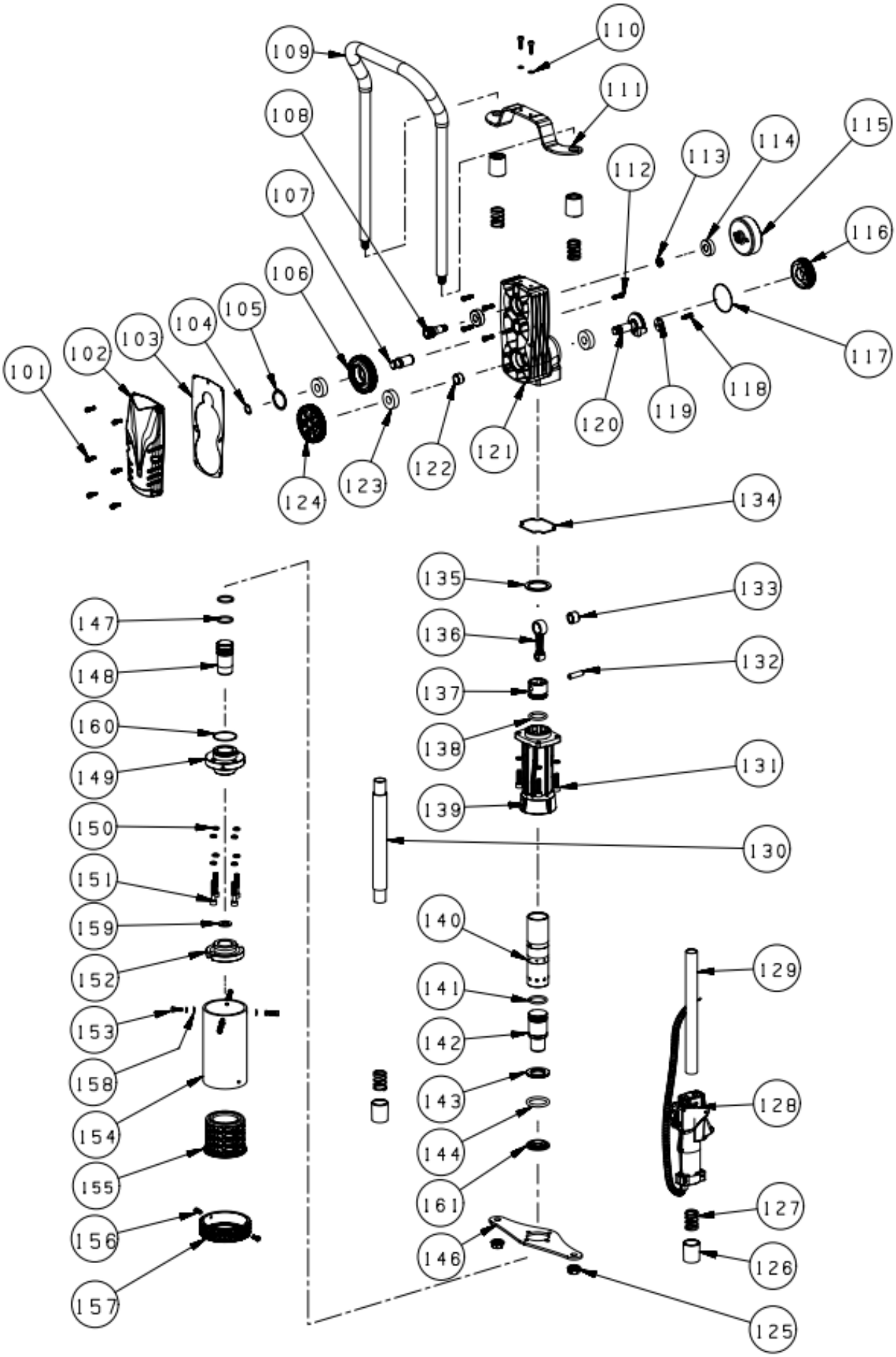
Servicing & repairs are recommended to be carried out by an authorized dealer.

The following data is given as a guide. Under severe working conditions such as dusty environments or extended working hours, maintenance cycle should be shortened accordingly. Please also refer to the Honda Service Manual supplied for technical information on the engine. Contact your local sales agent or dealer for further technical information.		Before work	After work or every day	After Filling oil	Every Week	50hr Service or 6 months	100hr Service or 12 months	300hr Service or 24 months
The whole machine	Complete Check (condition, screw/bolt tensions, Throttle & cut out switch)	√		√		√	√	√
	Clean		√			√	√	√
Timing Belt	Check							√
Air filter	Clean				√			
	Replace						√	√
Fuel filter	Clean						√	
	Replace						√	
Valve Clearances	Check/Adjust							√
Grease gearbox/impact Cylinder (EP0)	Clean					√		
	Add grease							√
Muffler	Check					√		
	Remove carbon deposit							√
Cylinder cooling fin	Check					√		
	Clean							√
Spark plug	Check/Adjust the distance between electrodes						√	
	Replace							√
Engine Oil (30, 10W30)	Check	√		√	√			
	Replace					√	√	√

14. Parts List and Exploded View of PPD-80 Post Driver

Parts highlighted in yellow are wear and tear items

No.	Description	Qty.s	No.	Description	Qty.s
101	M5x18 Hex socket screw, spring, flat pad comb	6	132	Cylindrical pinϕ10*37.5	1
102	Gear box cover	1	133	Needle bearings NK15/16	1
103	Paper washer for gear box	1	134	Front cylinder gasket	1
104	Shaft ring Φ17	1	135	Cylinder gasket	1
105	Circlip for hole Φ40	1	136	Connecting rod	1
106	No.2 gear	1	137	Piston	1
107	Middle axle	1	138	O-ring for piston F30.7*4.7	1
108	No.1 gear	1	139	Front placket	1
109	Handle	1	140	Cylinder	1
110	M6X20 Hexagon socket head screw, spring pad combination	6	141	O-ring for auxiliary hammer F32*4	1
111	Upper plate	1	142	Auxiliary hammer	1
112	M6X20 hexagon socket cap screws	1	143	Retainer ring for punch hammer	2
113	Seal cartridgeϕ18.8*15-4	1	144	Crash pad	1
114	Bearing 6202	2	146	Under plate	1
115	Clutch drum	1	147	O-ring for punch hammerF28*3.5	2
116	Grease cap	1	148	Punch hammer	1
117	O ring 60*1.8	1	149	Metal head	1
118	M6X20LH hexagon socket cap screws	1	150	Φ8 spring washer	12
119	Clip board for connecting rod 6.5*30-2	1	151	M8X45 hexagon socket cap screws	4
120	Eccentric shaft	1	152	Impactor	1
121	Gear box	1	153	M6X16 Hexagon socket head screw	4
122	Spacer17-22-12.3	1	154	Adapter	1
123	Bearing 6203	3	155	Piling sleeve 20-45mm	1
124	No.3 gear	1		Piling sleeve 55mm	1
125	M14 screw nut	2		Piling sleeve 73mm	1
126	Spring cover	4	156	M6X12 hexagon socket cap screws	2
127	Damping spring	4	157	Retainer	1
128	Switch block	1	158	ø6 flat pad	4
129	Tubular handle	1	159	Limitation washer	1
130	Handle	1	160	O-ring for metal head N46.2*2	1
131	M8X30 hexagon socket cap screws	4	161	retaining ring for hammer	1


101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161