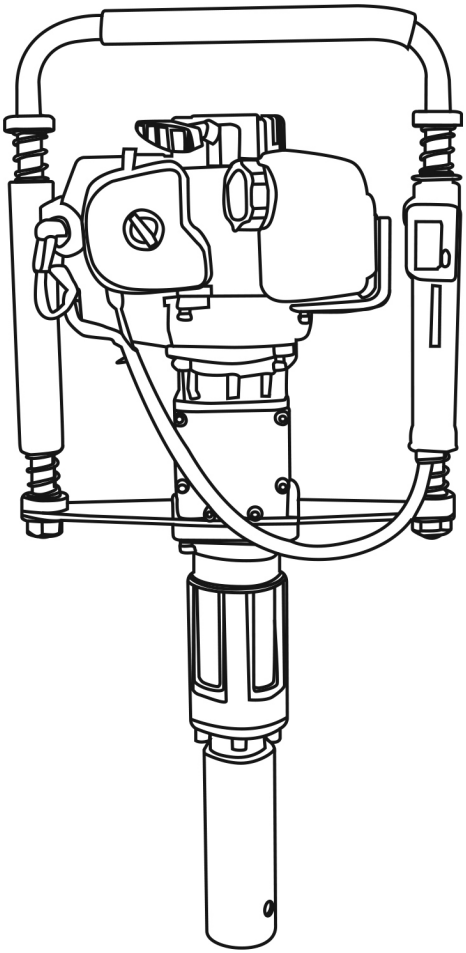
HARDIN INDUSTRIAL

32CC GAS POWERED SINGLE CYLINDER
T-POST PILE DRIVER

OPERATING MANUAL



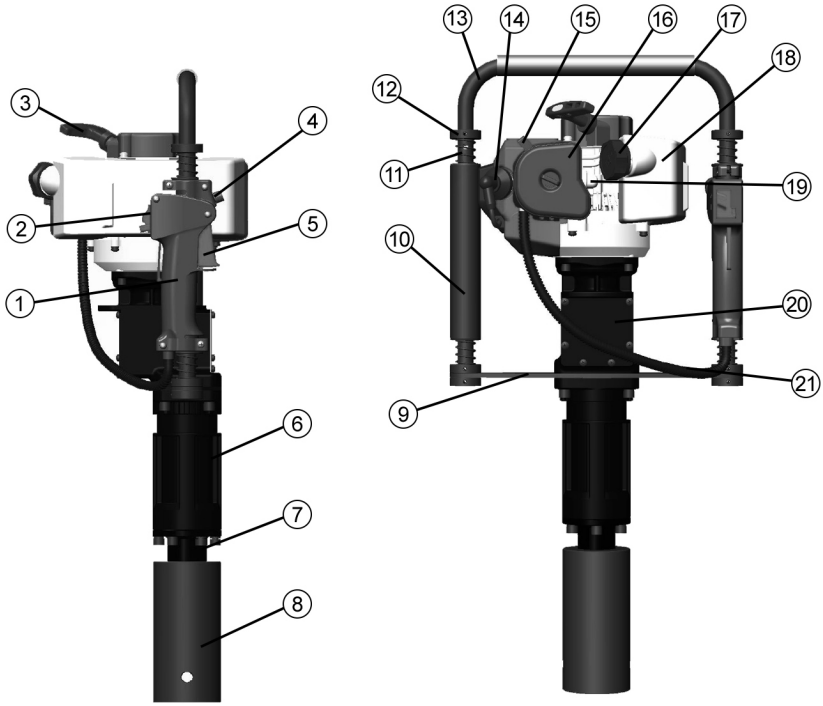
GPD1-JH55

USER MANUAL

Thank you for choosing our gasoline pile driver. This pile driver features a low weight profile, contemporary engineering, user friendly operation and low displacement engine for maximum performance. Compared to the competing products of other brands, this pile driver consumes less energy and is easy to operate. For your safety, please read the manual carefully before operating the machine, otherwise there is a risk of physical injury and/or property damage.

I. NAMES OF MAIN PARTS

S.No.	Part Name	S.No.	Part Name
1	Combination Switch	12	Positioning Sleeve
2	Stop Switch	13	Handle
3	Starter Handle	14	Spark Plug
4	Adjust Switch	15	Intake Switch
5	Throttle Switch	16	Air Filter
6	Hammer Case	17	Oil Tank Cap
7	Hammer Socket	18	Oil Tank
8	Piling Socket	19	Fuel Bubble
9	Support Plate	20	Steel Cover
10	Grip	21	Throttle Cable
11	Damping Spring		



II. INSTRUCTIONS FOR SAFE OPERATION

- Operator must wear safety goggles, a helmet and slip resistant safety shoes. If you're using the machine for an extended period of time, also use ear plugs.
- The operator should be in stable and balanced posture all the time when operating the machine. Always stand behind the support grip while operating.
- Never use the machine with one hand. Single handed operation is strictly prohibited.
- When lifting the machine do not pull the throttle switch and carry out idle speed operation of the machine.
- Keep untrained and irrelevant people away from machine and the area of operation to avoid physical injury. During operation gravel may fly causing injury to bystanders.
- For best results set the speed of pile driver at medium.
- Keep the handles dry and clean and ensure there is no oil or fuel mixture on them that can compromise the grip
- If there's a need to stop midway through operation, do not forget to switch off the machine.
- Prior to every operation, inspect the fastening screws of the connector throroughly to ensure that they are well-tightened. If there are any loose screw(s), tighten them before getting on with your job.
- Pure gasoline (without 2-stroke engine oil) is strictly forbidden to be used as fuel
- Since gasoline is highly flammable, ensure that refueling process takes place in a well ventilated and safe environment. Before adding oil, switch off the engine.
- Never add too much oil. The oil shall not exceed the neck of oil filer of fuel tank. If fuel spills, wait until the fuel volatilizes completely before starting the machine.
- Once the machine has been refueled, tighten the oil lid properly. From time to time, keep checking the fuel tank for any damage or leaks. If the fuel tank is compromised in any way, replace the tank immediately before resuming the operation.
- Store oil in safe storage places that are free from any materials or sources of causing fire or spark.
- When the pile driver has to be operated in relatively closed areas like tunnels, trenches and deep grooves, ensure that there is good circulation of fresh and proper ventilation to avoid waste gas poisoning and suffocation.
- Sudden acceleration and braking can cause damage to the machine. Avoid it at all costs.
- When transporting the machine, ensure you empty the fuel tank to avoid any accidental leakage.
- Untrained and non-professional staff shall not be allowed to dismount the pile driver to avoid structural damage of the part, shortened service life of the machine and accidents.

III. PRIMARY USE AND FUNCTION

Usage:

This pile driver can be used for outside piling operation of farms, orchard fences and barriers.

Function:

- This is an engine-type handheld gasoline piling driver featuring light weight profile and low discharge capacity.
- The pile driver conforms to the man machine engineering design standards, reduces the work load of the operator to a great extent and boasts user friendly and convenient operation. The machine allows flexible 360 degree operation.
- This pile driver has the ability to regulate impact energy and frequency and apply it to a variety of piles that are less than 2-1/2″ in diameter.
- Using this pile driver comes with a big advantage of getting rid of relying on heavy machinery like generators, air compressors and trucking lorry.
- The grip of the pile driver is made of rubber and plastic sponge which reduces the recoil force of the machine by a great margin and improves on operator's comfort.

IV. PREPARATORY WORK BEFORE OPERATION

Fuel

- Use qualified gasoline and mix it with 2-stroke engine oil

Recommended Mixing Ratio is as follows:

Conditions	Gasoline Engine Oil
Work within 20 hours	20:1
Work after 20 hours	25:1

- Never use pure gasoline (without 2-stroke engine oil) as engine fuel.
- Refuel your machine in a well ventilated area since gasoline is highly flammable.
- Never add too much oil. The oil shall not exceed the neck of oil filer of fuel tank. If fuel spills, wait until the fuel volatilizes completely before starting the machine.
- Once the machine has been refueled, tighten the oil lid properly.

V. STARTING THE MACHINE

Prior to turning on the new machine, press the transparent fuel bubble repeatedly until carburetor is filled with fuel. If the engine isn't hot, close the air vent and reopen it after switching on the machine and when engine is hot.

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

Switch the gasoline engine on and then open the air vent completely.

VI. OPERATION

- Once you've switched on the gasoline engine, run it idle for 3 to 5 minutes so machine gets warmed up for operation.
- When the engine is thoroughly warmed up, press the throttle handle to the appropriate regulatory position according to the required impact energy.

Note: Use the new gasoline pile driver for light to medium duty jobs in first 24 hours of operation and heavy duty operation should be avoided to increase service life of the machine.

- Ideally, operation shall be carried out at low to medium speed.
- During non-piling high speed operation of the machine is prohibited.

VII. TURNING OFF THE MACHINE

- Release throttle handle and carry out idle running of the machine for 3-5 minutes.
- Pull Stop Switch to the position of flameout. See the position of Stop Switch in Fig.1.

VIII. TECHNICAL MAINTENANCE

Air Filter

Check air filter from time to time. 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. Damaged filter should be replaced immediately. Especially if it's in the environment of excessive dust and debris, maintenance cycle shall be shortened properly.

Fuel Filter

If the fuel filter is blocked, pile driver will have reduced speed and weaker impact energy. Open the tank lid. Take out the fuel filter from fuel tank with metal hook and clean it. When cleaning the fuel filter, clean the fuel tank at the same time.

Carburetor

Fuel tank and carburetor usually have residual oil. After a while, the residual oil will become greasy clogging up the oil line, causing problems in starting engine. 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.

Spark Plug

In order 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 4.

Muffler

Regularly remove dirt on inlet and outlet of muffler, or clean dirt in it with detergent. You can also use the screwdriver to remove dirt on the body and exhaust.

Gearbox and Lubrication of Impact Part

Open the cover of left and right gear boxes, and lubricate the gear and the connecting rod regularly with lubricating oil to guarantee full lubrication of the machine.

Cylinder Heat Sink

From time to time, remove the dust to ensure cylinder cooling. The gasoline piling driver is air cooler type and if dust accumulates on the cylinder heat sink that will directly affect the cooling.

IX. FAILURE ANALYSIS AND TROUBLESHOOTING

Problems Analysis and Solving

Example 1: Difficulties in starting engine in cold state.

Whether the spark plug is moisture.	→ Dry the igniter plug
↓	
Whether the spark plug produces electric spark	→ Replace the igniter plug
↓	
Too much fuel absorbed	→ Lessen the fuel supply

Example 2: Difficulties in restarting after a sudden stop

Whether fuel runs out or the Carburetor is blocked	→ Refill fuel tank or clean the carburetor
↓	
Whether the fuel filter is blocked	→ Clean the fuel filter
↓	
Too much carbon deposit in igniter plug	→ Remove carbon deposit

Example 3: Reluctance in speeding and weakness in power

Carbon deposit cover the entrance of the cylinder or silencer	→ Remove carbon deposit
↓	
Whether the oil tube and the air vent on the fuel Tank cover is blocked	→ Clean
↓	
Blockage in air filter	→ Clean the filter

Example 4: Abnormal sound

Carbon deposit found in combustion chamber	→ Remove carbon deposit
↓	
Serious abrasion in active components	→ Replace

Example 5: The machine is working normally, but the efficiency of cracking is very low

The head of the chisel is attired badly	→ Replaced or renew

Please contact with Hardin Industrial Tools if your machine needs further repair or maintenance.

X. PRODUCT SPECIFICATION

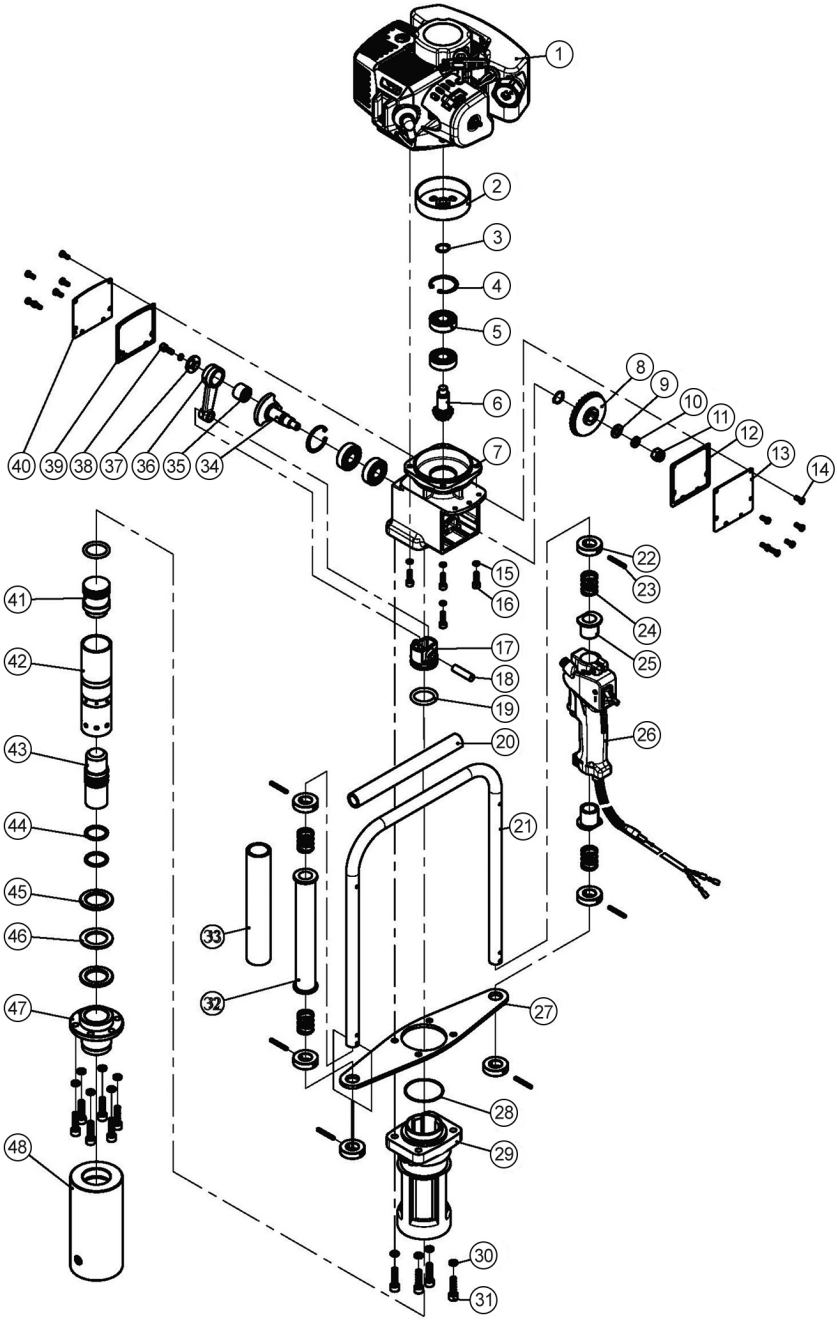
- Displacement: 32.7CC
- Impact Frequency: 1700-2230 BPM
- Impact Energy: 30-45J
- Max Power and Speed: 900W (1.2HP) and 9000RPM
- Max torque and speed: 1.45 N.M and 5000RPM
- Engine Type: Single cylinder, air cooling, 2 stroke
- Fuel Type: Mixed oil (25 gasoline: 1 motor oil)
- Fuel Tank Capacity: 0.9L
- Fuel Consumption Rate: ≤0.5L/h
- Carburetor Type: MZ10.7
- Spark Plug Type: L6T
- Starter System: Hand pull start
- Piling Heads Size: Φ49mm & Φ69mm

XI. MAINTENANCE CYCLE

The reference data provided here is for average product usage. In worse working conditions, such as thick dust being present in the air or excessive work hours for the machine, the maintenance cycles should be rescheduled for shorter periods correspondingly.		Before Woke	After Work or Every Day	After Filling Oil	Every Week	Every Month	Broken Down	If Necessary
The whole machine	Outlook check (state, stable of screws)	✔		✔				
	Cleaning		✔					
Control handle/stop button	Function check	✔		✔				
Air filter	Clean						✔	
	Replace							
Fuel filter	Check				✔			
	Replace						✔	
Petrol tank / petrol tank cover	Clean		✔	✔				
	Check	✔		✔				
	Tighten							✔
Gear box / hammer box	Clean					✔		
	Add oil							✔
Lubricating oil tank	Check	✔						
	Clean					✔		
	Fill oil							✔
Silencer	Check							
	Remove carbon deposit							✔
Cylinder cooling fan	Check					✔		
	Clean							✔
Spark plug	Check/adjust customize the distance between Electrodes					✔		
	Replace							✔
Screw and nut	Check	✔		✔				
	Tighten							✔

XII. PART LIST AND EXPLODED VIEW OF GASOLINE PILE DRIVER

Part No.	Description	Qty.	Part No.	Description	Qty.
1	Gasoline Engine	1	41	Hammer	1
2	Inflating Plate	1	42	Cylinder	1
3	Circlips for Shaft A17	2	43	Impact Hammer	1
4	Circlips for Holes A40	2	44	O-Circle	2
5	Deep Groove Ball Bearings 6203-2RZ	4	45	Damping Ring	2
6	Small Gear	1	46	Cushion	1
7	Gearbox	1	47	Hammer Socket	1
8	Big Gear	1	48	Piling Socket	1
9	Washer 10	1			
10	Spring Ring 10	1			
11	Nut M10	1			
12	Right Gasket	1			
13	Right Steel Cover	1			
14	Screw M5x12	12			
15	Washer 6	5			
16	Hexagon Screw M6x20	4			
17	Piston	1			
18	Piston Pin	1			
19	O-Circle	2			
20	Soft Cover of Assist Handle	1			
21	Handle	1			
22	Positioning Sleeve	6			
23	Flexible Cylindrical Pin 4x35	6			
24	Damping Spring	4			
25	Guide Sleeve	2			
26	Combination Switch	1			
27	Support Plate	1			
28	Cabinet Seals	1			
29	Hammer Case	1			
30	Washer 8	10			
31	Hexagon Screw M8x30	10			
32	Grip	1			
33	Grip Soft Case	1			
34	Impact Crank	1			
35	Needle Roller Bearing HK152316	1			
36	Shock Linkage	1			
37	Collar	1			
38	Hexagon Screw M6×16	1			
39	Left Gasket	1			
40	Left Steel Cover	1			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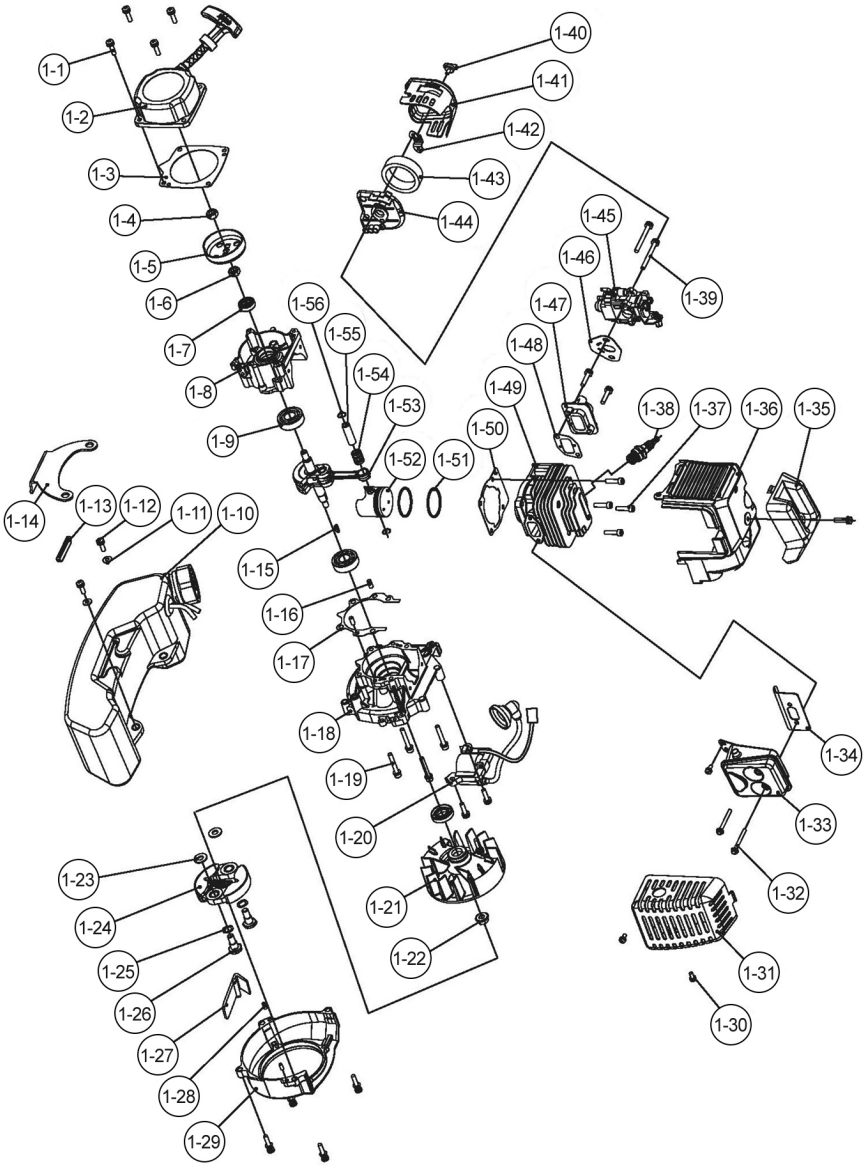
XIII. PART LIST AND EXPLODED VIEW OF GASOLINE ENGINE

Part No.	Description	Qty.	Part No.	Description	Qty.
1-1	Screw M5×20	13	1-41	Air Filter Cover	1
1-2	Starter	1	1-42	Air Filter Press Plate	1
1-3	Starter Alu.Gasket	1	1-43	Air Filter	1
1-4	Nut M8×1.25	1	1-44	Air Filter Base Com.	1
1-5	Start Reel	1	1-45	Carburetor	1
1-6	Nut M8×1.25	1	1-46	Carburetor Gasket	1
1-7	Oil Seal 2	2	1-47	Air Inlet	1
1-8	Right Crankshaft Box	1	1-48	Air Inlet Tube	1
1-9	Deep Groove Ball Bearing 6201	2	1-49	Cylinder	1
1-10	Oil Tank Assem.	1	1-50	Cylinder Gasket	1
1-11	Oil Tank Washer	2	1-51	Ignitor Plug	2
1-12	Screw M5×16	2	1-52	Ignitor	1
1-13	Oil Tank	1	1-53	Crankshaft	1
1-14	Press Plate	1		Connectine Rod	
1-15	Woodruff Key	1		Com.	
1-16	Crank Case Gasket	1	1-54	Needle Bearing	1
1-17	Pin 4×10	2	1-55	Ignitor Pin	1
1-18	Left Crankshaft Case	1	1-56	Ring	2
1-19	Screw M5×30	4			
1-20	Ignition Coil	1			
1-21	Magneto Rotor Comp	1			
1-22	Nut M8×1.25	1			
1-23	Steel Washer	2			
1-24	Expander Com.	1			
1-25	Gasket	2			
1-26	Clutch Bolt M8×10	2			
1-27	Air Deflector	1			
1-28	Pin 5×10	2			
1-29	Fan Cover	1			
1-30	Screw M5×12	3			
1-31	1-31 Muffler Cover	1			
1-32	Bolt M5×55	2			
1-33	Muffler	1			
1-34	Muffler Gasket	1			
1-35	Cylinder Top Cover	1			
1-36	Cylinder Cover 1	1			
1-37	Screw M5×20	4			
1-38	Spark Plug	1			
1-39	Screw M5×22	2			
1-40	Screw M5×9	1			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