WATER PUMP

PROFESSIONAL POWER EQUIPMENT

OPERATION | MANUAL

MODEL:TI3”
Gas Powered Water Pump

OPERATION INSTRUCTION AND PARTS LIST MANUAL

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This manual contains:
IMPORTANT WARNINGS and INSTRUCTIONS READ AND RETAIN FOR REFERENCE

⚠ WARNING: To reduce the risk of injury, the user must read and understand the operators manual before using this product.

SAVE THIS MANUAL FOR FUTURE REFERENCE

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WARNING

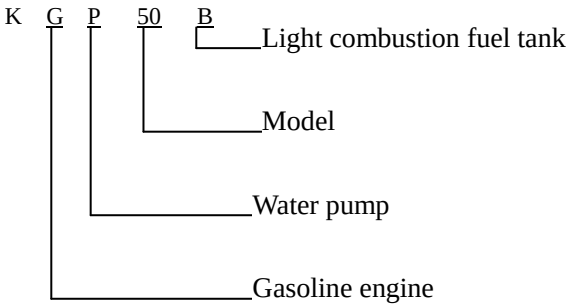
PLEASE READ AND UNDERSTAND THIS MANUAL COMPLETELY BEFORE OPERATING THE EQUIPMENT.

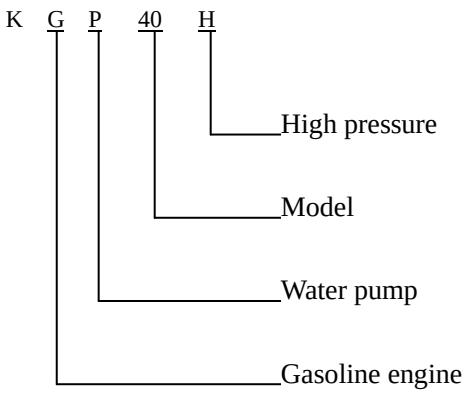
MAIN TECHNICAL PARAMETERS AND SPECIFICATIONS

Ⅰ MAIN TECHNICAL SPECFICATIONS

GASOLINE PUMPS

Self-priming pump	MODEL	KGP80B
	Inlet/outlet Diameter. (mm)	80（3”）
	Max. head (m)	19
	Max. Suction head (m)	8
	Max. Capacity (m^3/h)	60
Engine	MODEL	168F-1
	Displacement (cc)	196
	Max. Output (hp/rpm)	6.5/3600
	Oil Capacity (L)	0.6
	Fuel tank capacity (L)	3.6
Pump unit	Net Weight (Kg)	33
	Net Dimension L×W×H (mm)	505×370×442





• MAIN STRUCTURE AND USE METHOD

Ⅰ STRUCTURE

This type of pump consists of gasoline/diesel engine and water pump which drove by a same driving axle. The pump is fixed on a frame through shock absorber device, so it compact in structure and convenience for use of movement. For structure of self-priming pump.

The pump consists of pump body, pump cover, flow guidance, impeller and seal part etc. The pump body and pump cover are made from high quality die-casting of aluminum alloy. The flow guidance and impeller are made from high strength cast iron, shaft sealing is machinery type sealing. The suction and discharge pipe connector are made from engineering plastic so it can be connected with rubber pipe.

The outlet of pump is higher than the inlet of impeller so that it can start which only need fill water into the body of the pump. The inlet of pump is fixed with a one-way valve to prevent liquid from being drained into water pool from the pump body which action by siphon after stop the machine. It must guarantee store enough liquid in the pump body for next start.

The rotary direction is anticlockwise as viewed from inlet direction of impeller.

Ⅱ MAIN POINT OF USE

- The coupling of suction pipe to the pump must be tight, reliable and no leakage.
- A filter net must be added into the inlet of suction pipe as a protection , so as to avoid impurity be sucker into the pump and stick or damage the impeller.
- Prime the pump until the water overflow.
- Do not run it at high speed, unless you prime it.
- Drain off the pump for storage.

Ⅲ PROCEDURE OF USE

1. Adding water

When start the pump for the first time, it only need to add a few water into the pump and self-priming after start, so not necessary bottom valve.

2. Start the engine, ***Please see manual of diesel engine or gasoline engine.***

Ⅳ USE AND MAINTENANCE

1.According to normal stipulation, the vacuum of pump by suction be expressed with allowable NPSH (Net Positive Suction Head). When the pump work at the area of lower than 250m altitude. It can estimate suction head of pump which 10m minus allowable NPSH is it. Follow increasing with altitude, the atmosphere should be decreased, so the suction head of pump also be decreased. The value of decrease can be estimated which 10m minus local atmosphere value is it (m water column).

2.Pipeline is better with short pipe and straight pipe, so it can decrease unnecessary loss of pipeline. The pipeline must be supported to avoid from vibrating and damaging the pump by oppressive. Before operation it must check connection part between pump and pipeline whether there is loose phenomenon and special pay attention to leakage of inlet pipeline.

3.The filter net must keep a certain distance between river surface, river bottom and river bank. The net must dip into water no less than 0.3m to avoid suction air and to keep a distance, which is not less than 0.2m from river bottom, river bank to avoid suction stone or weeds.

4.If the gap between impeller and the surface of flow guidance is over 1mm, so that it can be

continuous to be used after adding an adjustment shim on the shaft shoulder.

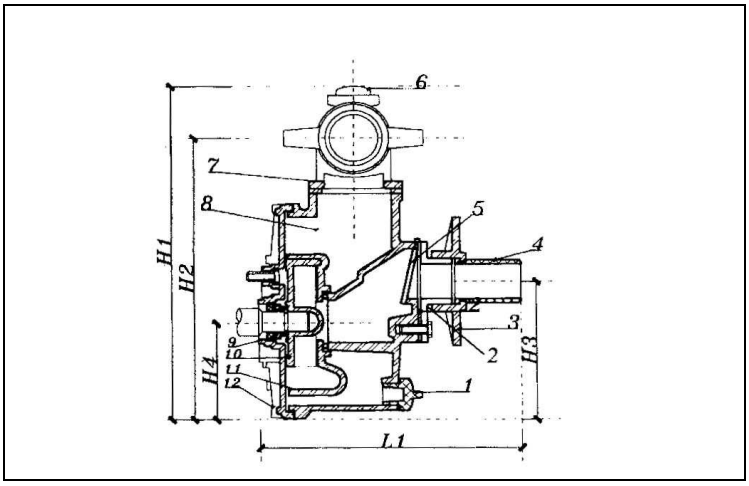


Fig .1 **Structure diagram of self-priming pump**

1)Drain screw cock 2)Connector of inlet pipe 3)Tighten net of inlet pipe 4)Connector 5)Door valve 6)Screw cock of adding water 7)Elbow of outlet 8)Case of pump 9)Machinery seal 10)Impeller 11)Flow guidance 12)Pump cover

OVERALL DIMENSIONS TABLE OF SELF-PRIMING PUMP

Unit: mm

Type	H1	H2	H3	H4	L1
50B	348	297	151	106	248
80B	410	348	171	106	325

5.When change machinery seal, be sure to apply adhesive to the connection between steel part "#7"and pump cover. When fixed it, do not hit by force to prevent wear slice fracture.

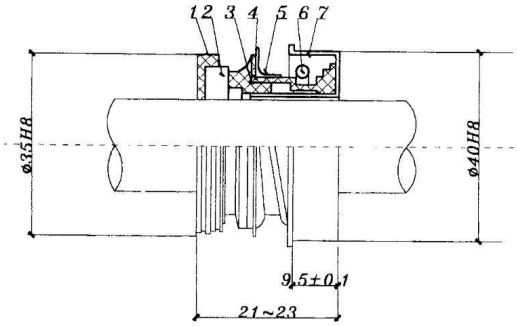


Fig .2 Structure diagram of machinery seal.

1. Seal ring 2. Ceramics moving ring 3. Graphite static ring

4. Corrugated pipe 5.Washer 6.Spring 7. Steel part

6.When the pump is used in winter, to screw off the drain cock under the pump and draw off water thoroughly after stop the machine to prevent from being broken by ice of freeze.

Ⅴ INSTALLATION OF CONNECTIVE SOFT PIPE

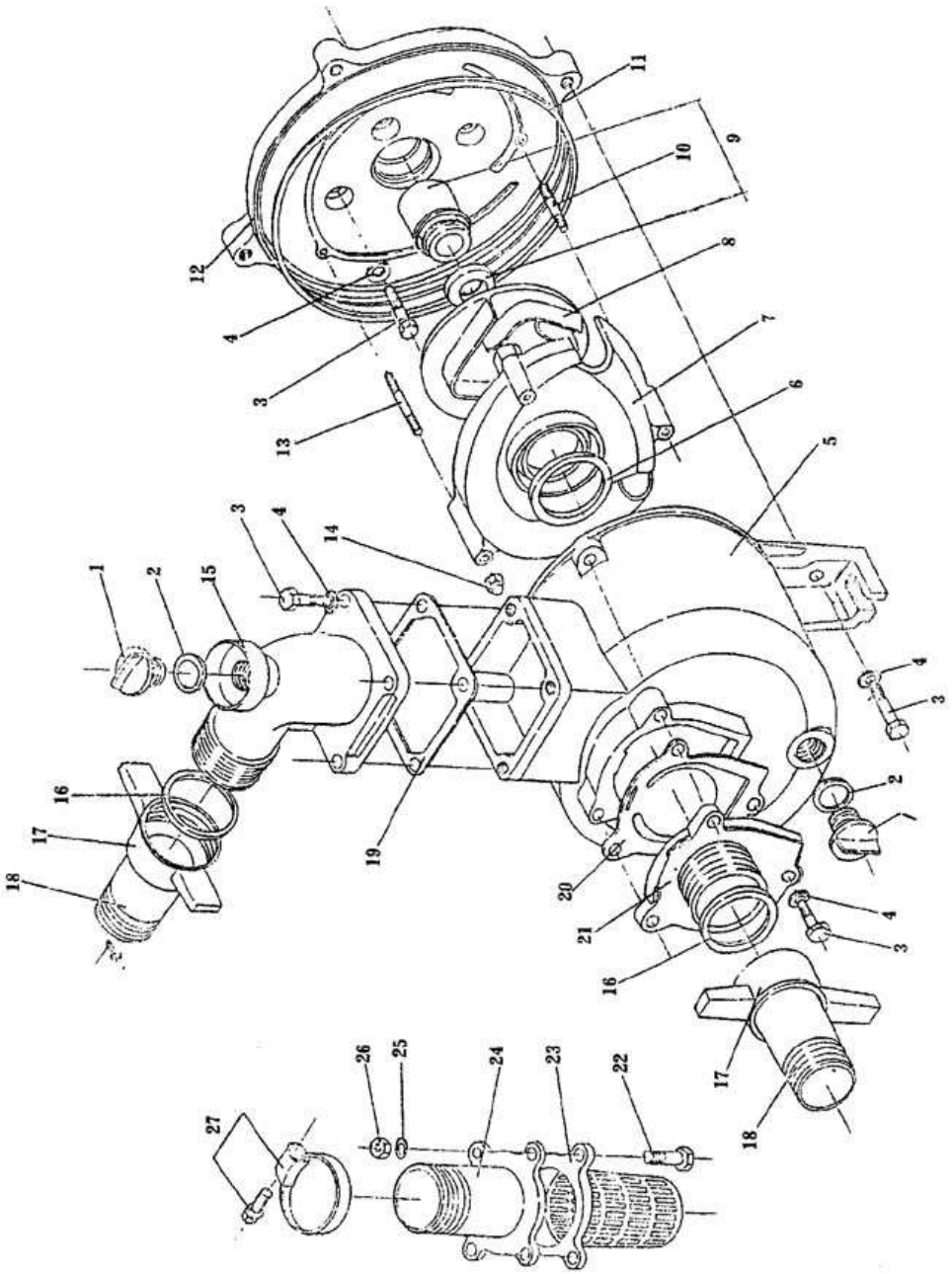
Set the rubber soft pipe on the connector of inlet pipe. Pay attention to, it must be set over the thread, and then tighten it with clipper joint.

ANALYSIS OF MALFUNCTION AND REMEDY

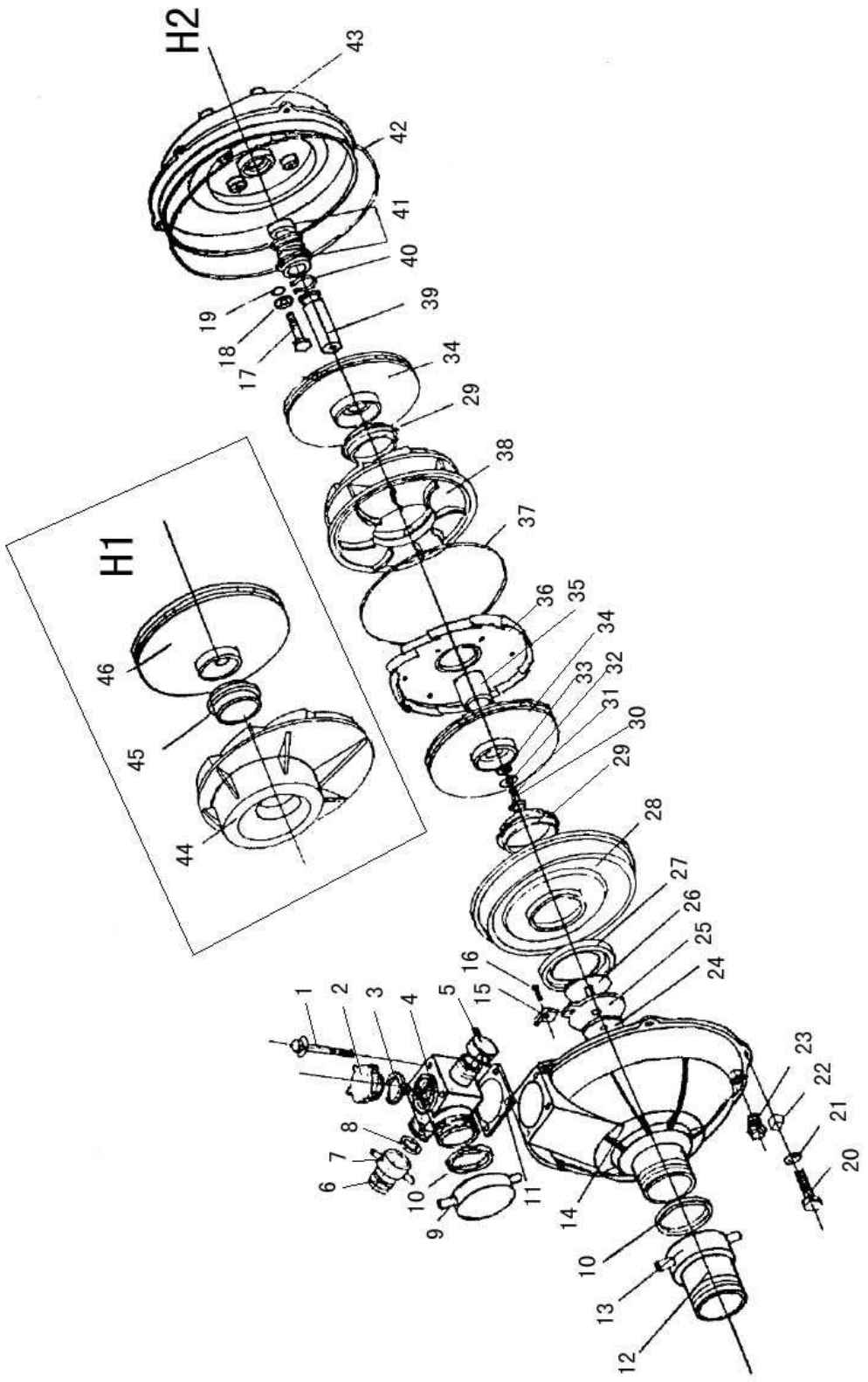
MAL-FUNCTION	CAUSE	REMEDY
The pump can not do pumping	Fill water is not enough	Refill water into the pump.
	Inlet pipe leakage.	Check inlet pipe and connector of pipe, change pipe or tighten the screw of clipper joint.
	Speed of pump is too low.	Check speed and find cause for remedy.
	The filter net is obstructed.	Check and clean up.
	It is over the capacity of pump which will be used lift or total lift.	Check the position of installation and remedy according to the cause.
	Seal wear and leakage.	Change machinery seal part.
The flow of water is not enough.	The filter net, pipeline or impeller is obstructed.	Clean up the obstruction.
	Speed is now.	Increase speed.
	Impeller or seal is wore seriously and the gap is too large.	Adjust the gap or change impeller and machinery seal part.
	Inlet pipe leakage.	Check inlet pipe and connector of pipe, change pipe or tighten the screw of clipper joint.
	Impeller damage and leakage seriously.	Change impeller into a new one.
The flow of water is not well-distributed and sometimes large, sometimes small.	The total lift is too high.	Check cause and adjust.
	There is air in the pump or inlet pipe and seal leakage.	Screw off air drain screw cock, and eliminate the air. Check the pipeline or change machinery seal part.
	Speed of engine is not stability.	Adjust the speed of engine.

Power consumption of pump is too large.	There is a rub between impeller and flow guidance.	Listen to the sound carefully, whether the impeller is clashed with the case and then to adjust.
	The impeller is obstructed by weeds or foreign matters.	Check and clean up.
No flow suddenly	The connector of inlet pipe is loosed or leakage.	Check inlet pipeline and remedy.
	Suction head is over stipulation.	Check suction head and low the position of pump.
MAL-FUNCTION	**CAUSE**	**REMEDY**
Cause vibration or noise	Suction head is too high and cause cavitation.	Check suction head and lower the position of pump.
	Out put of water is too large.	Decrease the output of water.
	Inlet pipe is obstructed by foreign body so the resistance is too large.	Check inlet pipe and filter net to clean up.
	Rotary part is loosed.	Listen carefully and inspect the part which cause the noise and stop the machine to adjust.
	Installing for pump unit is not stability.	Stop the machine for checking and adjusting.
	There is air lay up in the pump or pipeline.	Screw off air drain screw cock and eliminate the air.
	Impeller damage.	Stop the machine for checking and change the impeller with a new one.

• PARTS DRAWING OF SELF-PRIMING PUMP



PARTS DRAWING OF SELF-PRIMING HIGH-PRESSURE PUMP



Ⅰ Detailed list of part for 2” self-priming pump

No.	Code	Name	Qty	Remarks
1		screw	2	
2	GB3452.1-82	seal ring 35502500	2	
3	GB5783-86	bolt M8×25	15	
4	GB97.1-85	washer 8	16	
5		case of water pump	1	
6		washer	1	
7		diversion device	1	
8		impeller	1	
9		machinery seal	1	
10	GB900-76	bolt M6×50	2	
11		seal ring	1	
12		cover of water pump	1	
13	GB900-76	bolt M6×55	1	
14	GB923-76	bolt M6	3	
15		elbow	1	
16		gasket	2	
17		nut	2	
18		connector	2	
19		gasket	1	
20		clap door	1	
21		inlet connecting pipe	1	
22	GB5782-86	bolt M6×25	4	
23		filter net	1	
24		connecting pipe	1	
25	GB97.1-85	washer 6	4	
26	GB6172-86	net M6	4	
27		throat clip	3	

Ⅱ Detailed list of part for 3” self-priming pump

No.	Code	Name	Qty	Remarks
1		screw	2	
2	GB3452.1-82	seal ring 35502470	2	
3	GB5783-86	bolt M10×25	12	
4	GB97.1-85	washer 10	12	
5		case of water pump	1	
6		gasket	1	
7		diversion device	1	
8		impeller	1	
9		machinery seal	1	
10	GB900-76	bolt M6×55	3	
11		seal ring	1	
12		cover of water pump	1	
13	GB900-76	bolt M6	1	
14	GB923-76	bolt M6	3	
15		elbow	1	
16		gasket	2	
17		nut	2	
18		connector	2	
19		gasket	1	
20		clap door	1	
21		connecting pipe	1	
22	GB5782-86	bolt M8×30	4	
23		filter net	1	
24		connecting pipe	1	
25	GB97.1-85	Gasket 8	4	
26	GB6172-86	net M8	4	
27		throat clip	3	

Ⅲ Detailed list of part for 4” self-priming pump

No.	Code	Name	Qty	Remarks
1		screw	2	
2	GB3452.1-82	seal ring 35502470	2	
3	GB5783-86	bolt M10×25	12	
4	GB97.1-85	washer 10	12	
5		case of water pump	1	
6		gasket	1	
7		diversion device	1	
8		impeller	1	
9		machinery seal	1	
10	GB900-76	bolt M6×55	3	
11		seal ring	1	
12		cover of water pump	1	
13	GB900-76	bolt M6	1	
14	GB923-76	bolt M6	3	
15		elbow	1	
16		gasket	2	
17		nut	2	
18		connector	2	
19		gasket	1	
20		clap door	1	
21		connecting pipe	1	
22	GB5782-86	bolt M8×30	4	
23		filter net	1	
24		connecting pipe	1	
25	GB97.1-85	Gasket 8	4	
26	GB6172-86	net M8	4	
27		throat clip	3	

Ⅳ Detailed list of part for 1.5” self-priming high-pressure pump

No.	Code	Name	Qty	Remarks
1	GB5787-86	Screw M8×60	4	
2		Plastic plug	1	
3		“O” rubber seal	1	
4		elbow	1	
5		Outlet cap	2	
6		connector	1	
7		nut	1	
8		gasket	1	
9		Outlet cap	1	
10		gasket	1	
11		gasket	1	
12		connector	1	
13		nut	1	
14		case of water pump	1	
15		Bottom valve	1	
16		Screw M4×12	1	
17	GB5787-86	Screw M8×40	4	
18	GB97.1-85	Washer	4	
19		“O” rubber seal	4	
20	GB5787-86	Screw M8×35	8	
21		Spring washer	8	
22		Nut M8	8	
23		Draining plug	1	
24		Bottom valve weight	1	
25		Diffuser	1	
26		Valve	1	
27		Rubber seal	1	
28		Cover	1	
29		Plastic bush	2	
30	GB5787-86	Screw M10×15	1	
31		Spring washer ϕ10	1	
32	GB97.1-85	Washer ϕ10	1	
33		Seal	1	
34		Impeller	2	
35		Aluminum pipe	1	
36		Impeller	1	

No.	Code	Name	Qty	Remarks
37		“O” rubber seal	1	
38		Diffuser	1	
39		Axle	1	
40		Axle fence washer	1	
41		Mechanical seal	1	
42		“O” rubber seal	1	
43		Pump casing	1	
44		Diffuser	1	
45		Plastic bush	1	
46		Impeller	1	