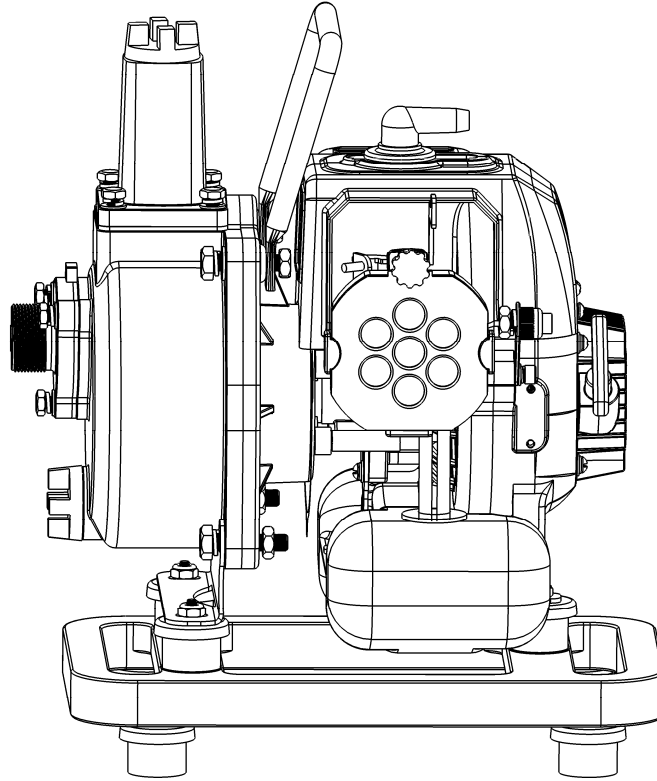


Operator's Manual

PUMP

Model: PAC25



CAUTION:

Before using this product, read this manual and follow all Safety Rules and Operating Instructions.

SAVE THIS MANUAL FOR FUTURE REFERENCE

Distributed by: Pacer Pumps

Address: 41 Industrial Circle, Lancaster, PA 17601

800-233-3861 Email: sales@pacerpumps.com

www.pacerpumps.com

1. PREFACE

Dear customer:

Thank you for your choosing our gasoline engine driven pump. Please read and follow this manual carefully. Failure to do so could result in unsatisfactory performance, shortened pump life or personal injury.

2. WARNING AND SAFETY

Read carefully before use and keep it for future reference.

2.1 Training

Read the instructions carefully. Be familiar with all the controls and proper use of the machine.

2.2 OPERATION

1. Use proper gasoline to oil mixture.
2. Do not shut off engine at high speed. Slow to an idle before turning off.
3. Do not operate the pump while people, especially children, or pets are nearby.
4. This pump is intended for pumping water. Do not pump caustics or acids.
5. Do not run the engine without liquid in pump. Doing so will damage the pump.
6. During break in period of first 30 hours do not overload the engine.
7. Pumping caustic liquid is to be strictly forbidden.

2.4 maintenance and storage

1. Turn off engine to cool before repairing
2. Do not modify your engine, which may cause engine damage and personal hazard.
3. Please use original parts recommended by manufacturer. to order parts, contact your dealer or Pacer Pumps.
4. Service engine regularly
5. Properly prepare the pump before storage.

3. EXPLANATION FOR WARNING LABELS



Read the instruction manual before using the machine



Keep bystanders away



Caution! Do not use the machine indoor.



Risk of high temperature



Do not touch the high temperature



Hearing protection must be worn

Caution! Do not run the engine for longer than 1 minute if no liquid is pumped.

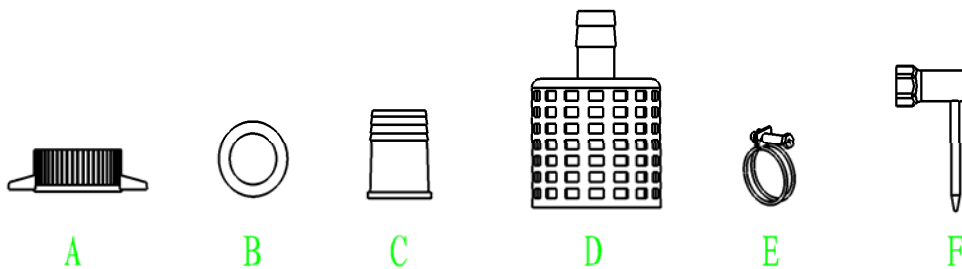
To avoid damaging, do not run the engine for longer than 1 minute if no liquid is pumped.

4. TECHNICAL DATA

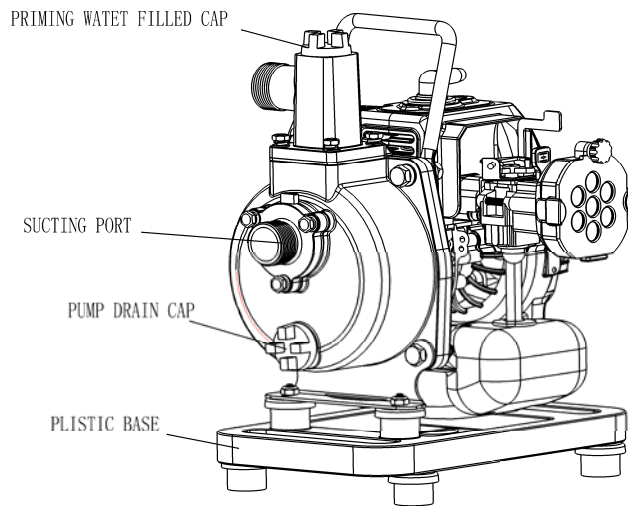
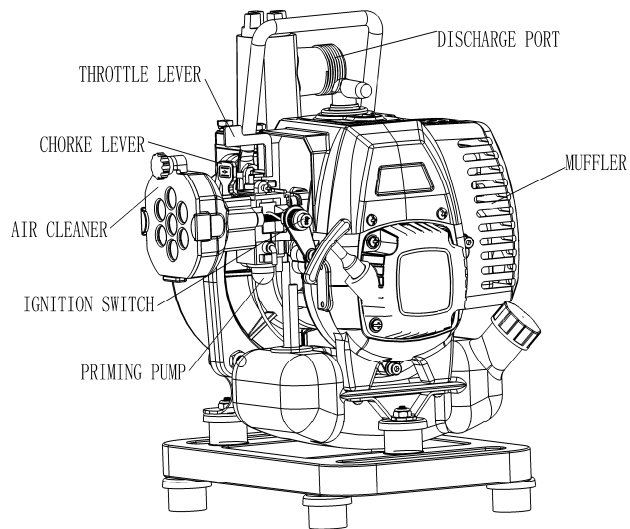
MODEL	PAC25
Net weight (lb)	13
Engine type	1E34F
Rated speed (rpm/kw)	2000rpm/0.7kw
Displacement (cc)	25.4cc
Fuel type	Unleaded / oil mixture
Mixture ratio (volume)	40:1
Fuel tank capacity(oz)	24
Spark plug model	BM6A L7 RTC
Start mode	Recoil
Maximum flow rate (gph)	1500
Max discharge head (ft)	57
Self-suction time(s)	≤60s
Bore x stroke(mm)	34×28
Cooling system	air cooling
Diameter of suction pipe	1 inch
Diameter of discharge pipe	1 inch
Suction lift (ft)	16

5. FITTING PACKAGE

REFERENCE	QUANTITY	DESCRIPTION
A	2	Wing button
B	2	Sealing washer
C	2	Hose coupler
D	1	Strainer cartridge
E	3	Hose clamp
F	1	Spark plug wrench



5. COMPONENT & CONTROL LOCATION

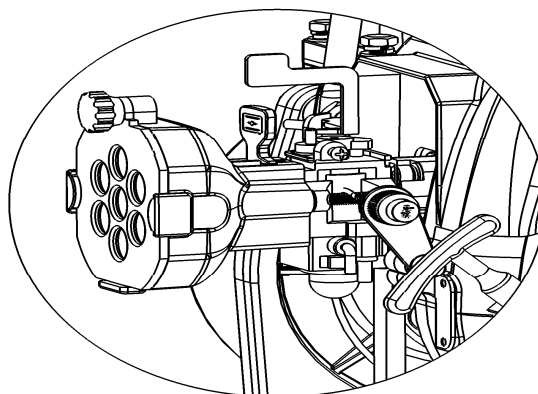


CONTROLS

Ignition Switch

The ignition switch can turn off the ignition system.

Push the ignition switch for stopping the engine.



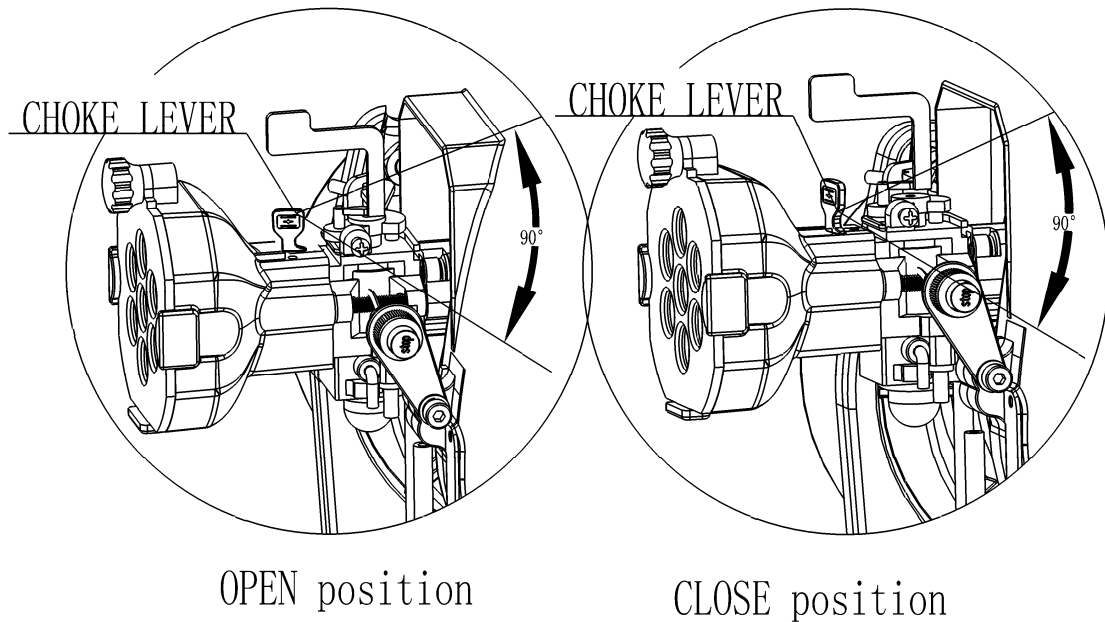
Choke Lever

The choke lever is in charge of controls of opening and closing choke valve in

the air cleaner.

Turn the choke level to CLOSE position to enrich the fuel mixture for starting a cold engine.

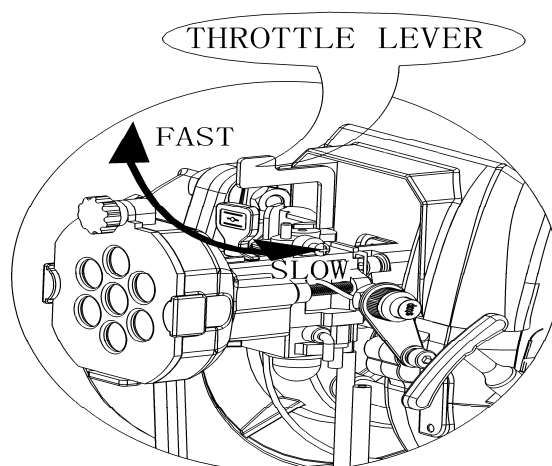
Turn the choke lever to OPEN position for forming a correct fuel mixture after starting a cold engine or for restarting a warm engine.



Throttle Lever

The throttle lever controls engine speed

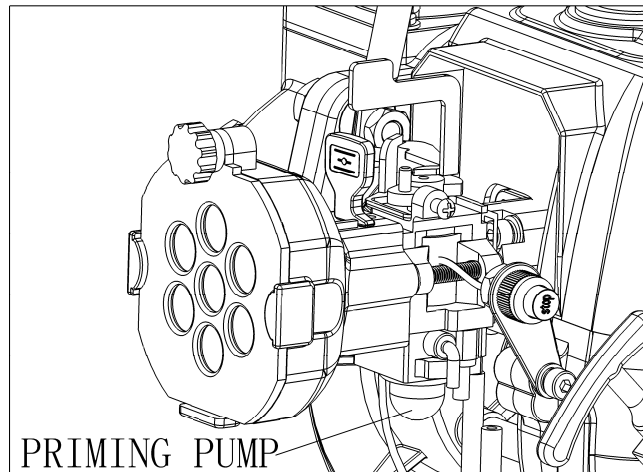
Turning the throttle lever in the direction such as the figure below will adjust the speed.



Priming bulb

The priming bulb pumps fuel from fuel tank to carburetor for easy-starting.

Press five-six times on the priming bulb to draw fuel from tank to carburetor



7. OPERATION

- Read and understand this **SAFETY INFORMATION** before operating your water pump.

Operator Responsibility

- Know how to stop the engine quickly in case of emergency.
- Understand the use of all water pump controls.

Hot Exhaust

- To prevent fire hazards, keep the water pump at least 3 feet (1meter) away from building walls and other equipment during operation.

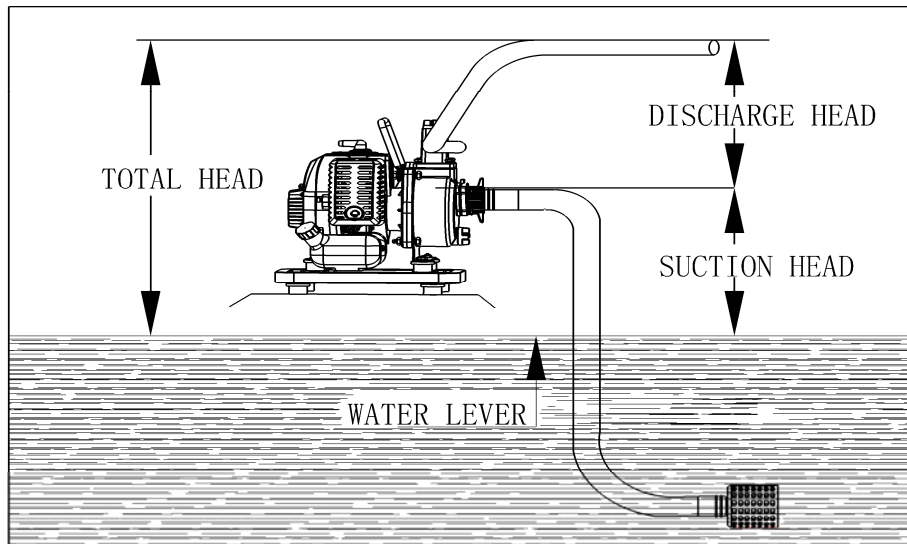
Carbon Monoxide Hazards

- Exhaust contains poisonous carbon monoxide, a colorless and odorless gas. Breathing exhaust directly can cause loss of consciousness and may lead to death.
- If you run the water pump in an area that is confined, the air you breathe could contain a dangerous amount of exhaust gas. To keep exhaust gas from accumulating, provide adequate ventilation.

PUMP PLACEMENT

For best pump performance, place the pump near the water level, and use hoses which are no long than necessary in length. That will enable the pump to produce greatest output performance with the least self-priming time. As pumping height increases, pump output decreases. The length, type, and size of the suction hoses and discharge hoses can also significantly affect pump output.

Minimizing suction head (placing the pump near the water level) is important for reducing self-priming time.



FUEL MIXTURE

Mix unleaded gasoline and two cycle engine oil at a ratio of 40:1

Recommended gasoline: unleaded gasoline with a octane rating of 87 or higher

Recommended engine oil: anti-oxidization engine oil for two-stroke engine

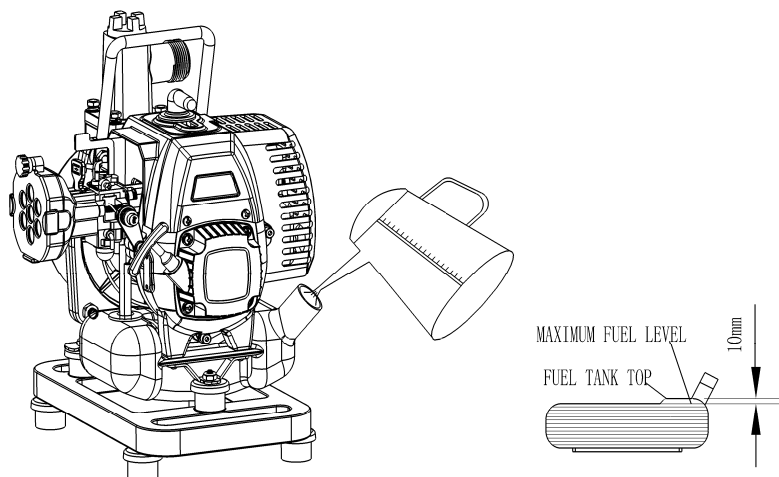
WARNING !

Gasoline is highly flammable and explosive, and you can be burned or seriously injured when refueling.

- Stop engine and keep heat, sparks, and flame away.
- Refuel only outdoors.
- Wipe up spills immediately.

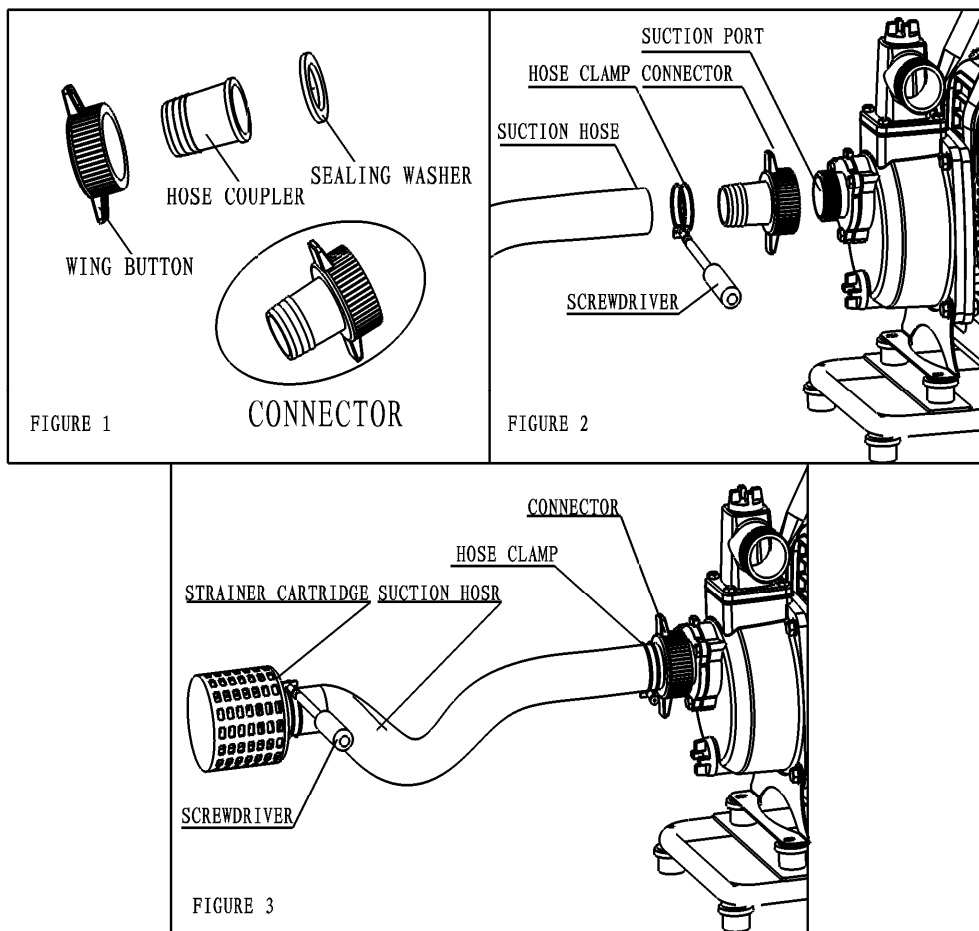
ADDING FUEL

1. Remove the fuel cap.
2. Add fuel to the bottom of the fuel level limit Do not overfill; Wipe up spilled fuel before starting the water pump.



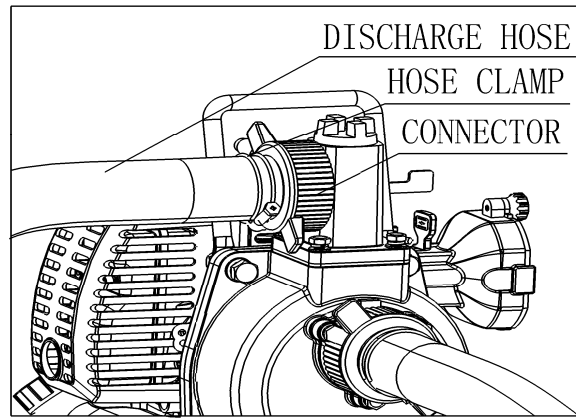
SUCTION HOSE INSTALLATION

- Put the wing button, the hose coupler, the sealing washer together such as shown in figure 1.
- Use a hose clamp to attach the suction hose to the connector in order to prevent air leakage and loss of suction force. Verify that the sealing washer is in good condition. (see figure 2)
- Install the strainer on the other end of the suction hose, and secure it with a hose clamp. The strainer will help to prevent the pump from being jammed or damaged by debris. (see figure 3)
- Securely tighten the connector on the pump suction port. (see figure 2 and 3)



DISCHARGE HOSE INSTALLATION

- It is best to use a short, large-diameter hose, because that will reduce fluid friction and improve pump output.
- Use a hose clamp to attach the discharge hose to the connector. Verify that the sealing washer is in good condition.
- Tighten the connector on the discharge port.



CHECKS BEFORE OPERATION

Check the Suction and Discharge Hose

- Check that the sealing washer in the suction hose connector is in good condition.
- Check that the hose connectors and clamps are securely installed.
- Check that the strainer is in good condition and is installed on the suction hose.

Check the Engine

- Check the air cleaner
- Check the fuel level
- Check that muffler is in good condition.

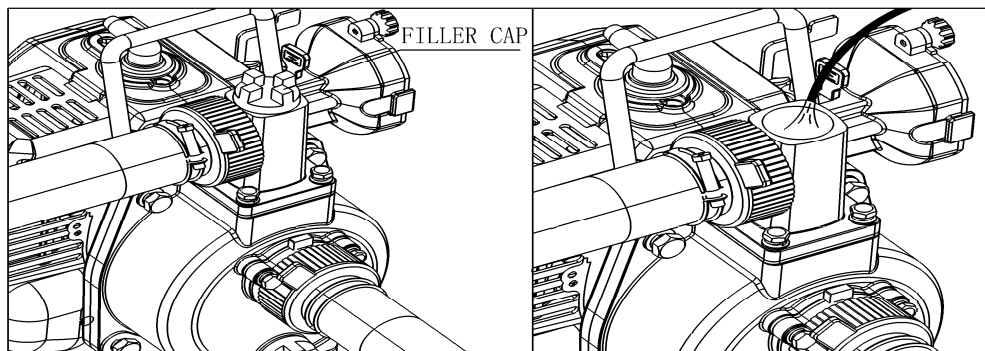
Caution! Do not run the engine for longer than 1 minute if no liquid is pumped.

PRIMING THE PUMP

Before starting the engine, remove the filler cap from the pump chamber, and fill the pump chamber with water. Reinstall the filler cap, and tighten it securely.

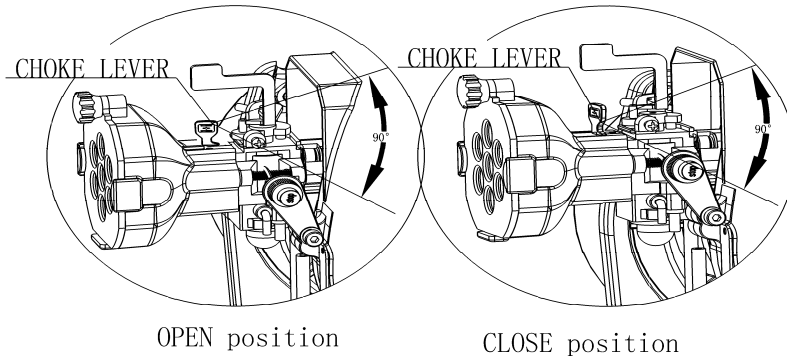
CAUTION

Operating the pump dry will damage the pump seal, if the pump has been operated dry, stop the pump immediately to cool the pump before priming.

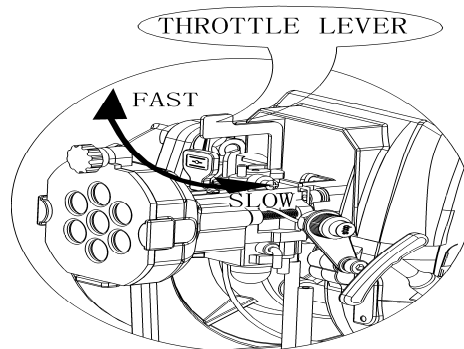


STARTING THE ENGINE

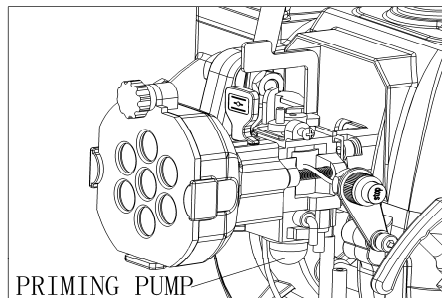
1. To start a cold engine, move the choke lever to the CLOSE position.
To restart a warm engine, leave the choke lever in the OPEN position.



2. Move the throttle lever from the SLOW position about 1/3 of the way toward the FAST position.

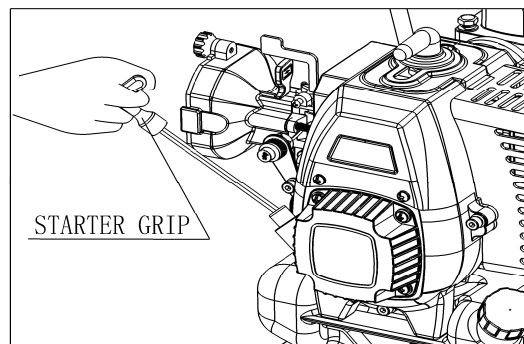


3. Pinch five to six times on the priming bulb

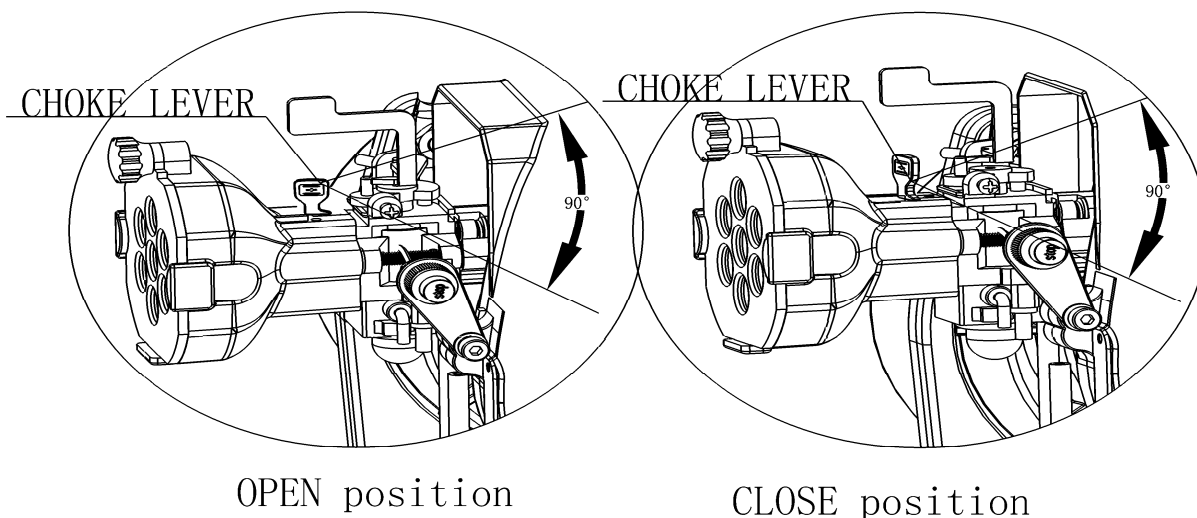


4. Pull the starter grip lightly until you feel resistance, and then pull the starter grip up quickly.

Return the starter grip gently.



5. If the choke lever has been moved to the CLOSE position to start the engine, move it gradually to OPEN position as the engine warms up

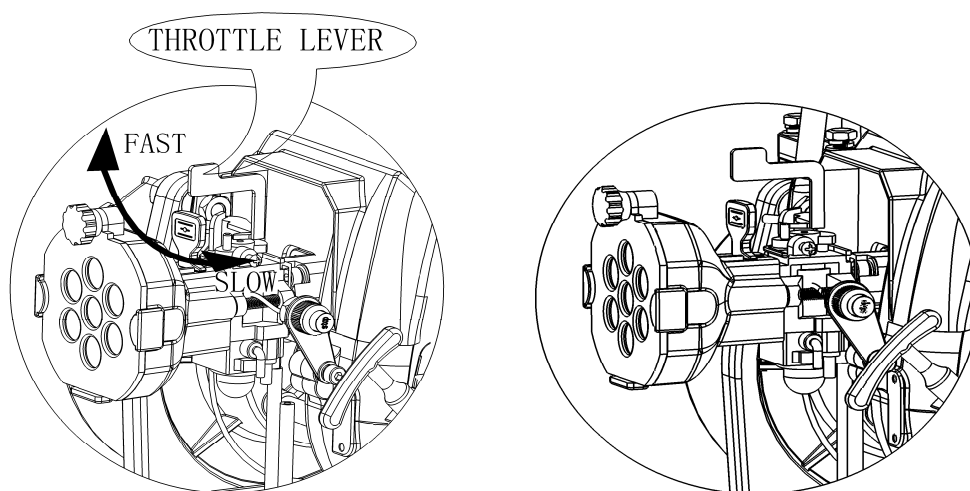


TURNING OFF THE ENGINE

To stop the engine in an emergency, simply push and hold the ignition switch.

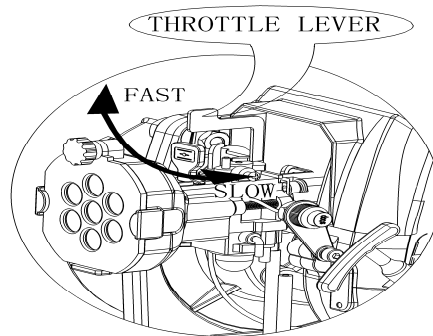
Under normal conditions, use the following procedure.

1. Move the throttle lever to the SLOW position.
2. Push the ignition switch.



SETTING ENGINE SPEED

Position the throttle lever for the desired engine speed.



SAFETY PRECAUTIONS

Make sure the engine is off before you begin any maintenance or repair. This will eliminate several potential hazards:

- Carbon monoxide poisoning from muffler. Be sure there is adequate ventilation whenever you operate the water pump.
- Burns from hot parts. Let the water pump cool before touching.
- Injury from moving parts.

To reduce the possibility of fire or explosion, be careful when working around gasoline. Keep cigarettes, spark, and flames away from all fuel related parts.

MAINTENANCE SCHEDULE

	Each use	20Hrs or First month(3)	50Hrs or Every 3 month(3)	100Hrs or Every 6 Month(3)	3000Hrs or Every 1 year (3)
Air cleaner	Check		Clean(1)	Clean(1)	
Spark plug				Check /adjust	Change
Idle speed					Check /adjust
Combustion chamber	After 500 hours (2)				
Fuel tank				Clean(2)	
Fuel filter				Clean(2)	
Fuel tube	Every 2 years (Replace if necessary) (2)				
Impeller					Check(2)
Impeller clearance					Check(2)

- (1) Service more frequently when used in dusty area.
- (2) These items should be serviced by technicians.
- (3) For commercial use, log hours of operation to determine proper maintenance.

AIR CLEANER MAINTENANCE

A dirty air cleaner will restrict air flow into the carburetor. To prevent carburetor malfunction, service the air cleaner regularly. Service more frequently when operating in extremely dusty areas.

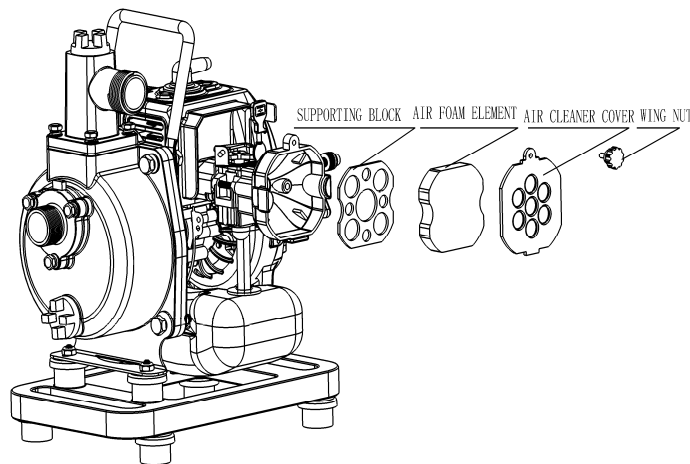
WARNING

Operating the engine without an air cleaner cover, or with a damaged air cleaner cover, will allow dirt to enter the engine, causing rapid engine wear.

NOTICE

Never run the engine without the air cleaner. Rapid engine wear will result from contaminants, such as dust and dirt being drawn into the engine.

- a. Unscrew the wing nut, remove the air cleaner cover and remove the foam element.
- b. Wash the element in solution of household detergent and warm water, then rinse thoroughly, or wash in nonflammable or high flash point solvent. Allow the element to dry thoroughly.
- c. Reinstall the air cleaner element and the cover.



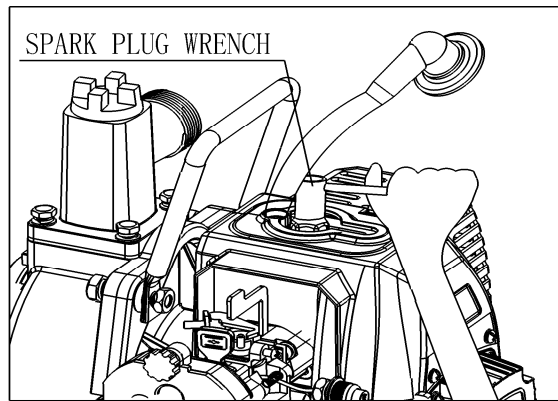
SPARK PLUG SERVICE

In order to service the spark plug, you will need a spark plug wrench (commercially available).

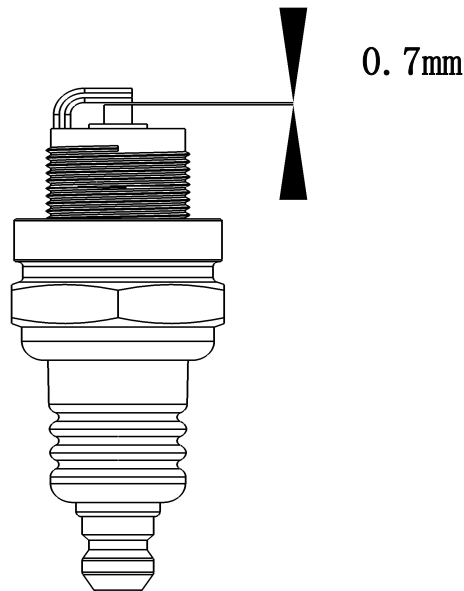
To ensure proper engine operation, the spark plug must be properly gapped and free of deposits.

If the engine has been running, the muffler will be very hot. Be careful not to touch the muffler.

- a. Remove the spark plug cap by hand.
- b. Clean any dirt from around the spark plug base.
- c. Use a spark plug wrench to remove the spark plug.



- d. Visually inspect the spark plug. Discard it if the insulator is cracked or chipped. Clean the spark plug with a wire brush if it is to be reused.
- e. Measure the plug gap with a feeler gauge. Correct as necessary by carefully bending the side electrode. The gap should be : (0.70 mm)



- f. Check that the spark plug washer is in good condition, and thread the spark plug in by hand and prevent cross-threading.
- g. After the spark plug is seated, tighten with a spark plug wrench and compress the washer.
- If installing a new spark plug, tighten 1/2turn after the spark plug seats to compress the washer. If reinstalling a used spark plug, tighten 1/8-1/4 turns after the spark plug seats to compress the washer.

NOTICE

The spark plug must be securely tightened. An improperly tightened spark plug can become very hot and could damage the engine.

Never use a spark plug that has an improper heat range. Use only the recommended spark plug. Recommended spark plugs: BM6A / L7RTC

8. STORAGE

Proper storage preparation is essential.

CLEANING

If the water pump has been running, allow it to cool for about an hour before cleaning. Clean all exterior surfaces,

FUEL

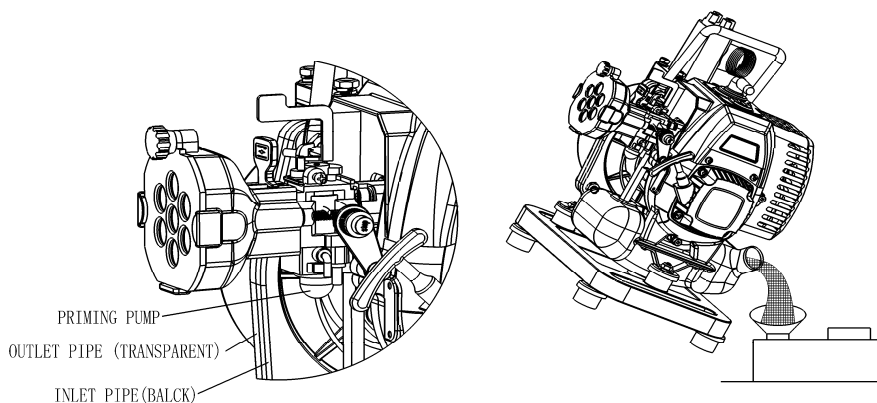
Gasoline will oxidize and deteriorate in storage. Old gasoline will cause hard starting, and it leaves deposits that clog the fuel system.

If the gasoline in your water pump deteriorates during storage, you may need to have the carburetor and fuel system component serviced and replaced.

You can avoid fuel deterioration problems by draining the carburetor and the fuel tank or using a commercial grade fuel stabilizer.

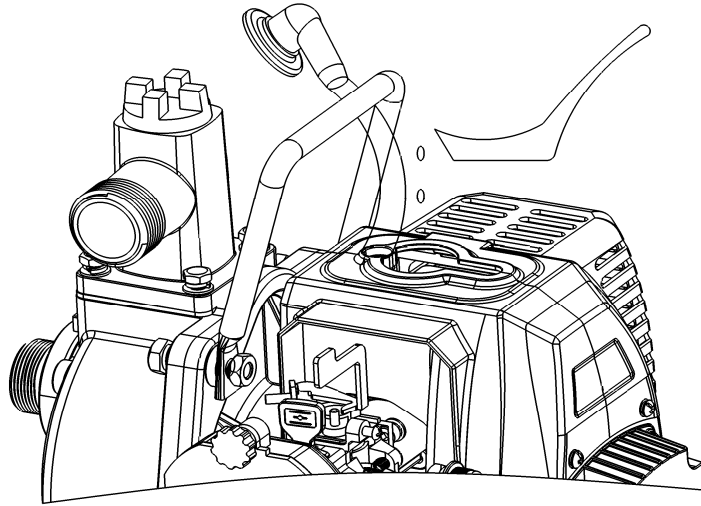
DRAINING FUEL TANK AND CARBURETOR

1. Remove the inlet pipe on the carburetor and pinch the priming bulb to return the fuel in the carburetor to fuel tank through the outlet pipe.
2. Place an approved gasoline container on the floor, and use a funnel to avoid spilling fuel.
3. Incline the water pump to drain the fuel tank.
4. Reinstall the inlet pipe on the carburetor



ENGINE OIL

1. Remove the spark plug.
2. Pour 1/5 tablespoon (1-2 CC) of clean engine oil on the cylinder.
3. Pull the starter rope to distribute the engine oil on the cylinder.
4. Reinstall the spark plug
5. Pull the starter rope until feeling resistance. This will prevent moisture from entering the engine cylinder. Return the starter rope gently.



STORAGE PRECAUTIONS

Select a well ventilated storage area away from any appliance that operates with a flame, such as water heater, or clothes dryer.

Avoid any area where power tools are operated.

If possible, avoid storage area with high humidity, because that promotes rust and corrosion.

With the engine cool, cover the engine to keep out dust.

Do not use sheet plastic as a dust cover, a nonporous cover will trap moisture around the engine, promoting rust and corrosion.

9. REMOVAL FROM STORAGE

Check your engine as described in the BEFORE OPERATION chapter of this manual

Fill the tank with fresh fuel. Gasoline oxidizes and deteriorates over time, causing hard starting.

10. TRANSPORTATION

If the engine has been running, allow it to cool for at least 30 minutes before loading the engine-powered equipment on the transport vehicle. A hot engine and exhaust system can burn you and ignite some materials.

11. TROUBLE SHOOTING

ENGINE WILL NOT START

Engine will not start	Possible cause	Correction
Check control position	Unfit choke position	Move the choke lever to close position unless engine is warm
Check fuel	Out of fuel	Refuel
	Bad fuel; engine stored without treating of draining fuel, or refueled with bad gasoline.	Drain the fuel tank and carburetor. Refuel with fresh fuel.
Remove and inspect spark plug	Spark plug was faulty, or improperly gapped	Replace the spark plug or gap spark plug properly
Take engine to a technician	Fuel filter clogged, carburetor malfunction, etc.	Replace or repair faulty components as necessary.

ENGINE LACKS POWER

Engine lacks power	Possible cause	Correction
1. Check air cleaner	Air cleaner elements clogged	Clean and repair air cleaner elements
2. Check fuel	Bad fuel; engine stored without treating of draining fuel, or refueled with bad gasoline.	Drain the fuel tank and carburetor. Refuel with fresh fuel.
3. Take engine to a technician	Fuel filter clogged, carburetor malfunction, etc.	Replace or repair faulty components as necessary.

NO PUMP OUTPUT

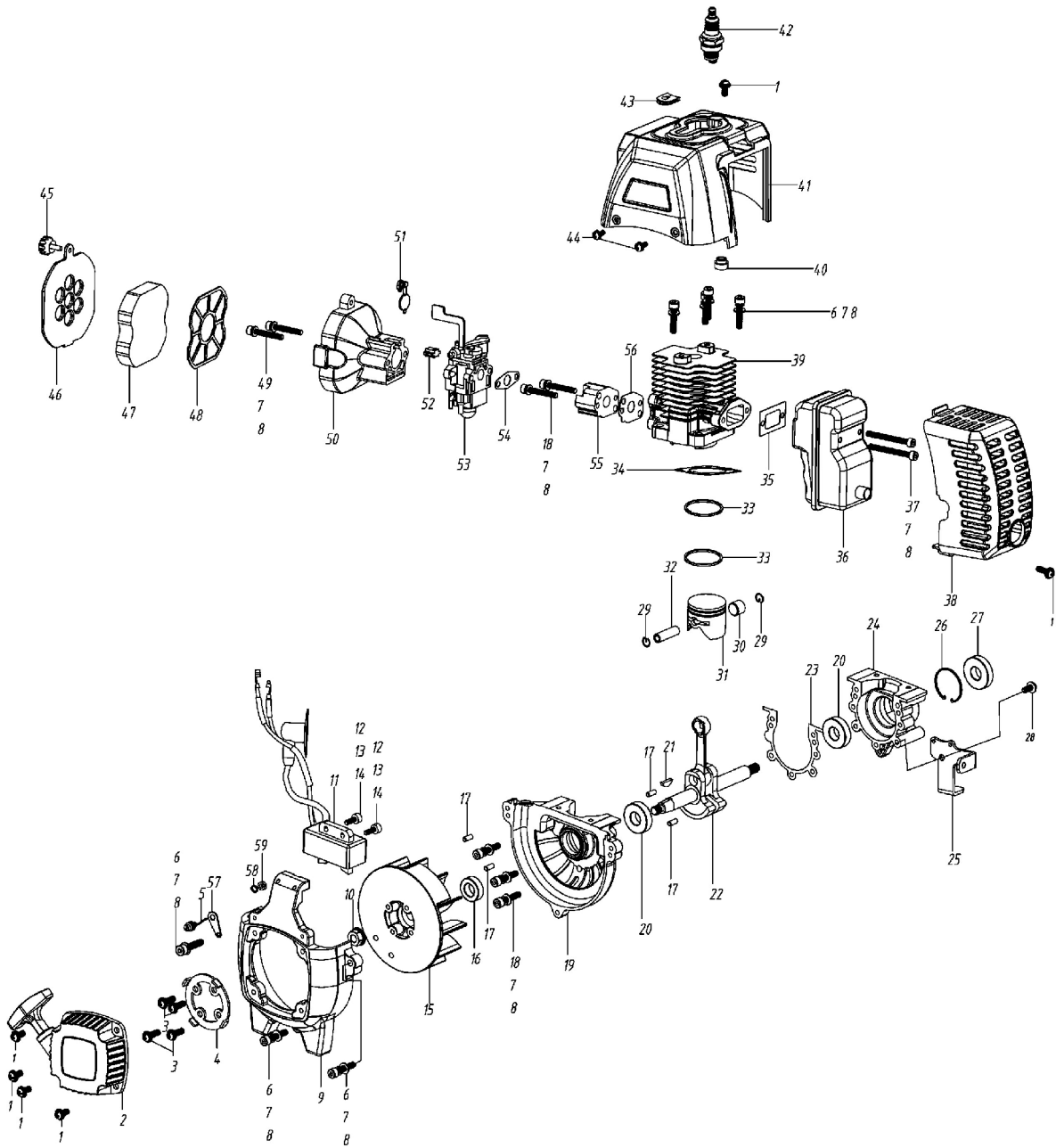
No pump output	Possible cause	Correction
Check pump chamber	Pump not primed	Prime pump
Check suction hose	Hose collapsed or punctured	Replace suction hose
	Strainer not completely underwater	Sink the strainer and the end of the suction hose completely underwater
	Air leakage at connector	Replace sealing washer if missing or damaged. Tighten connector and hose clamp.
	Strainer clogged	Remove debris from strainer.
Measure suction head and discharge head	Excessive head	Replace pump or hose to reduce head

LOW PUMP OUTPUT

Low pump output	Possible cause	Correction
Check suction hose	Hose collapsed, damaged, too long, diameter too small	Replace suction hose
	Air leakage at connector	Replace sealing washer if missing or damaged. Tighten connector and hose clamp.
	Strainer clogged	Remove debris from strainer.
Check discharge hose	Hose damaged, diameter too small	Replace discharge hose
Measure suction head and discharge head	Excessive head	Replace pump or hose to reduce head

PARTS ILLUSTRATION OF PUMP ENGINE

MODEL: PAC25



PARTS ILLUSTRATION OF PUMP ENGINE

MODEL: PAC25

NO	Part No	Qty	Description	NO	Part No	Qty	Description
59	GB/T41-2000	1	Hex nut	29	IE34F-12.00	2	washer_(piston pin)
58	GB/T93-1987	1	Øsplit washer	28	GB/T9074.4	1	M5x16 cross recessed pan head bolt
57	IE34F-36.00.00	1	switch supporter	27	SG12X30X7	1	oil seal(big)
56	IE34F-35.00	1	gasket	26	GB/T893.1	1	Ø30 split washer
55	1E34F-34.00	1	manifold	25	IE34F-11.00	1	supporter
54	1E34F-33.00	1	gasket	24	IE34F-10.00	1	crank case 2
53	IE34F-32.00	1	carbtorator	23	IE34F-09.00	1	crankshaft gasket
52	IE34F-31.00	1	chokor block	22	IE34F-08.00	1	crank assembly
51	IE34F-30.00	1	chokor	21	GB/T1099.1	1	woodruff key
50	IE34F-29.00	1	air filter housing	20	GB/T276-82	2	Beerling 6202_C3Z2
49	GB/T818-85	2	M5x80 cross recessed pan bolt	19	IE34F-07.00	1	crank case 1
48	IE34F-28.00	1	spacer/net	18	GB/T70.1	5	M5x25 inner Hex bolt
47	IE34F-27.00	1	filter foam	17	GB/T119.1	4	Pin(round) Ø4x10
46	IE34F-26.00	1	filter cover	16	SG12X22X7	1	oil seal
45	IE34F-25.00	1	knob	15	IE34F-06.00	1	rotor
44	GB/T9074.4	2	M4x10 cross recessed pan head bolt	14	GB/T95	2	flat washer
43	IE34F-24.00	1	rubber wire clip	13	GB/T93	2	split washer
42	IE34F-23.00	1	spark plug	12	GB/T70.1	2	M4x16 inner Hex bolt
41	IE34F-22.00	1	cylinder housing	11	IE34F-05.00	1	stator
40	IE34F-21.00	1	bush	10	GB/T6183	1	M8 Hex flange Nut
39	IE34F-20.00	1	cylinder	9	IE34F-04.00	1	engine housing 1
38	IE34F-19.00	1	muffler housing	8	GB/T93-1987	16	Øsplit washer
37	GB/T70.1	2	inner Hex bolt M5x65	7	GB/T97.1-2000	16	Øflat washer
36	IE34F-18.00	1	muffler gasket	6	GB/T70.1	7	M5x20 inner Hex bolt
35	IE34F-17.00	1	muffler gasket	5	1E34F-03.00	1	"off" switch
34	IE34F-16.00	1	sylander gasket	4	IE34F-02.00	1	pusher dog
33	IE34F-15.00	2	piston ring	3	GB/T9074.4	4	M5x16 cross recessed pan head bolt
32	IE34F-14.00	1	piston pin	2	IE34F-01.00	1	starter
31	IE34F-13.00	1	piston	1	GB/T9074.4	6	M5x12 cross recessed pan head bolt
30	K081111	1	quill bearing				

PARTS ILLUSTRATION OF PUMP

MODEL: PAC25

NO	Part No	Qty	Description	NO	Part No	Qty	Description
51	MGPU34A-30.00	1	carton box	25	GB/T5783-2000	7	M6x20 Hex bolt
50	GB/9074.4	1	M5X12 cross recessed pan head bolt	24	MGPU34A-13.00	1	water inlet
49	GB/T70.1	4	M5X25 inner Hex bolt	23	MGPU34A-12.00	1	hanging cap
48	GB/T93	8	∅ split washer	22	MGPU34A-11.00	2	plug(screw)
47	GB/T97.1	8	∅ 5 flat washer	21	MGPU34A-10.00	2	aprons(Nozzle)
46	GB/T70.1	4	M5X35 inner Hex bolt	20	GB/T93-1987	4	∅ split washer
45	MGPU34A-29.00	1	base	19	GB/T97.1-2000	4	∅ 8 flat washer
44	MGPU34A-28.00	7	anti-vibration cap	18	GB/T16674.1-2004	4	M8x35 Hex bolt
43	GB/9074.4	2	M5x14 cross recessed pan head bolt	17	GB/T6172.2	3	M5 non metal Hex nut
42	MGPU34A-27.00	1	supporter	16	MGPU34A-09.00	1	anti-vibration bracket
41	MGPU34A-26.00	1	fuel tank assembly	15	MGPU34A-08.00	1	pump body
40	MGPU34A-25.00	7	anti-vibration leg	14	MGPU34A-07.00	1	sprons(spiral case)
39	MGPU34A-24.00	1	outlet gasket	13	MGPU34A-06.00	1	spiral case
38	MGPU34A-23.00	1	water gasket	12	MGPU34A-05.00	1	water wheel
37	MGPU34A-22.00	1	accessories bag	11	SF-13.2	1	water seal(small)
36	MGPU34A-SM- ^{01 (43)} _{02 (43)}	1	manual	10	MGPU34A-04.00	1	aprons(-pump covert)
35	MGPU34A-21.00	1	PE bag	9	SF-13.1	1	water seal(big)
34	MGPU34A-20.00	1	Spark plug wrench	8	GB/T93-1987	4	∅ 5split washer
33	MGPU34A-19.00	1	data label	7	GB/T97.1-2000	4	∅ 5 flat washer
32	MGPU34A-18.00	1	noise level label	6	GB/T16674.1-2004	4	M5x25 Hex bolt
31	MGPU34A-17.00	1	oil mixture ratio label	5	MGPU34A-03.00	4	aprons(-bolt)
30	MGPU34A-16.00	2	wing button	4	MGPU34A-02.00	1	pump cover
29	MGPU34A-15.00	2	hose coupler	3	GB/T6187.1	4	M8 metal Hex flange locknut
28	MGPU34A-14.00	2	gasket	2	MGPU34A-01.00	1	handle
27	GB/T93-1987	7	∅ 6 split washer	1	1E34F	1	engine
26	GB/T97.1-2000	7	∅ 6 flat washer				