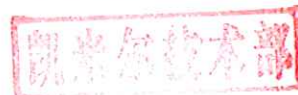
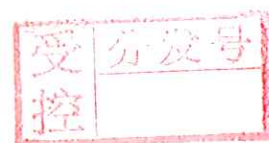
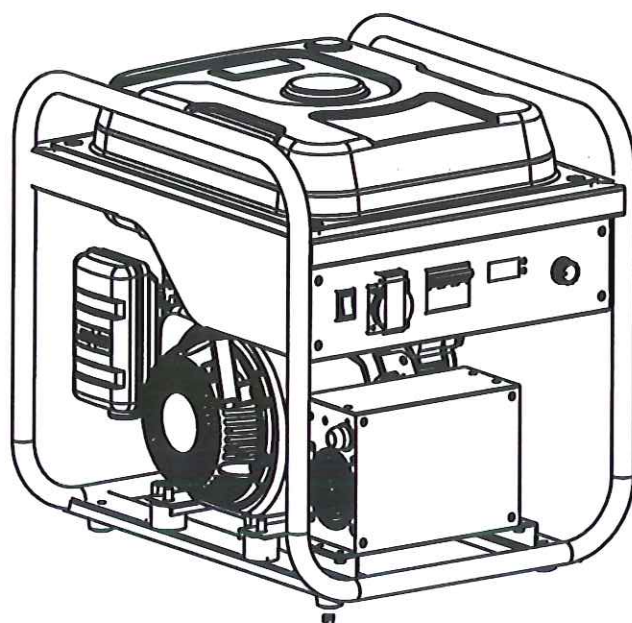




PM INVERTER WELDING GENERATOR



代码: 32082-08157-00_01版 10002-00702-00

描述: AIPOWER客户F1款SA5500-250A永磁变频发焊机说明书 (小本黑白封铜)

描述: 张峰 25.4.28

审核: 喻峰 25.4.28

批准:

张峰 25.4.28

张峰

Second, the parameter list

Model	SA5500-250A
No-load voltage	80V
Output current range	30A/21.2V-160A/26.4V
Welding current	160A
Welding voltage	26.4
Load duration	60%
Rated voltage	230V
Rated current	17.5A
Rated speed	3450min ⁻¹
Rated power	4.0kW
Maximum power	4.5kW
Waveform distortion (T.H.D)	≤3%
No-load speed	3850min ⁻¹
Cooling mode	Forced air cooling
Insulation class	1P23
Class of protection	H
Net weight	33KG
Gross weight	35KG
Overall size	522*440*505mm

Third, the whole machine structure

Note: The following photos and for reference, please prevail in kind!

代码: 32082-08157-00_01版参数页 10002-00702-00

描述: 张伟 25.4.28

审核: 喻豪 25.4.28

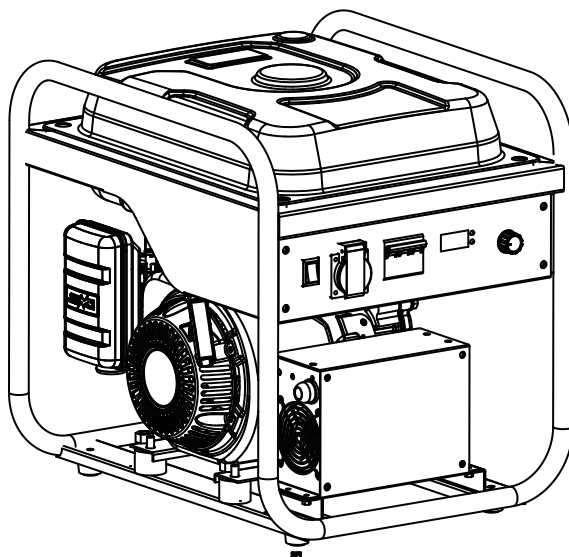
批准:



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PM INVERTER WELDING GENERATOR



This manual will tell you how to use and maintain your welder equipment. Please read the instructions carefully before using the welder and follow the instructions in order to make your welding machine work at its best. It is beneficial to extend the service life of the welder. If you have any suggestions for the instructions, please contact us. The company's technology will continue to innovate, the relevant parameters and products in the manual may not appear exactly the same, the company will not be notified, please understand!

Table of Contents

Safety instructions	1
Parameters Table	4
Machine structure.....	5
Pre-start operation.....	6
Start up	8
Run	10
Downtime	11
Maintenance and maintenance	11
Common faults and treatment methods	16
Schematic.....	19

One. Safety instructions

Before using this welder, you must refer to this instruction manual. Incorrect operation or abuse of the welder will result in the safety of the operator and the third party, damage to the welder, public or private property, and affect the effective work of the welder. .

1.1 Protect yourself and others, welding can put you and others under multiple hazards:

Take adequate measures to protect the eyes: it is very important to protect the eyes during welding, not only for the operator, but also for other personnel in the attachment. Eye hazards include flares of glare caused by arc glare reflections, sparks, and splashes of molten metal. So if you stare at the eyes without protection, you may have severe pain or even blindness. For this purpose, the owner/operator must ensure that the welder is used by a person. Professional protective equipment must be used during operation:

——A mask with filter glass.

——Wear special gloves.

——Wear special protective clothing and protective work shoes.

1.2 Power and welding current may cause electric shock. Please do not touch the inside and outside of the welder; ensure that you and others have dry insulation against the ground, so that the body is completely isolated from the ground or electrodes.

1.3 Welding fumes and gases can be harmful to humans. Please leave

your head and take in the position of the soot to ensure that there is sufficient fresh air circulation.

1.4 Persons using a pacemaker should not engage in welding operations and welders in use, without the consent of a medical professional, and the magnetic field generated when the welder is energized can adversely affect the operation of the pacemaker.

1.5 Splashes can cause fire or explosion. Do not allow welding near flammable materials; do not perform welding in hazardous locations (such as flammable or explosive materials, closed tanks or pipes) unless these precautions are taken as standard.

1.6 Exhaust pipes and silencers are high-heat parts. Pay attention to avoid burns. The high temperature caused by the exhaust system is enough to ignite some materials. Do not place flammable materials near the welder or place the items on the welder to avoid fire.

1.7 Ensure that the welder is installed, used and maintained by a professional. Please keep all safety signs and warning signs on the welder clear, not damaged, removed, altered, etc.

1.8 The raw material of the welder is gasoline, and the discharge contains toxic gas carbon monoxide, so do not use it in a closed room to avoid carbon monoxide poisoning.

1.9 Gasoline is flammable and gasoline gas can cause an explosion. If a welder is running, let it cool first. Refueling can only be carried out in an outdoor, unventilated electric welding unit with good ventilation. When refueling, there should be a fuel expansion space in the fuel tank to prevent accidents due to fuel expansion. It is forbidden to smoke next to petrol, away from other flames, Mars, etc. Be sure to dry the spilled fuel before starting the welder.

1.10 Auxiliary power supply (AC 110V) is a high-voltage power supply, to avoid the leakage of electrical appliances, to avoid excessively dragging and wearing the auxiliary power supply lead wire, so as to avoid leakage or short circuit.

1.11 Check the oil level of the oil before starting each time. If the oil level is lower than the lower limit or higher than the upper limit, the oil should be added or reduced in time to avoid the normal operation due to excessive oil or the loss of machine oil due to lack of oil. And the oil that meets the requirements must be replaced regularly to keep the oil clean and fresh.

1.12 Before the welding work, the power input line, protective grounding wire and welding power should be carefully checked. Whether the cable insulation is good, the wiring is correct, firm and reliable.

1.13 Welding power is prohibited for thawing of pipes.

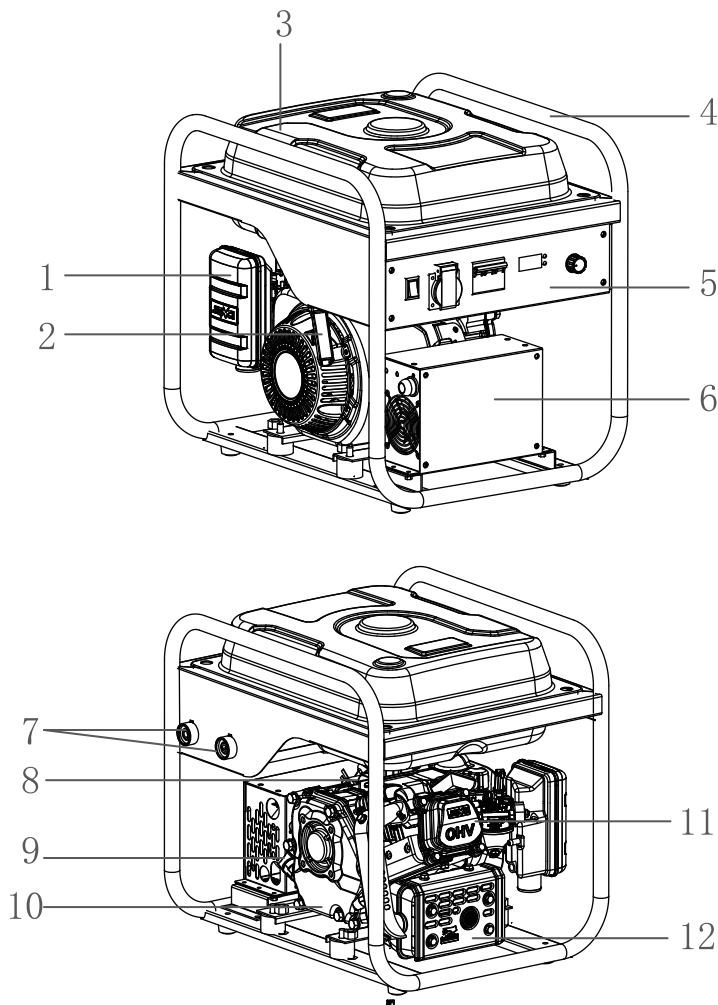
Second, the parameter list

Model	SA5500-250A
No-load voltage	80V
Output current range	30A/21. 2V-160A/26. 4V
Welding current	160A
Welding voltage	26. 4
Load duration	60%
Rated voltage	230V
Rated current	17. 5A
Rated speed	3450min ⁻¹
Rated power	4. 0kW
Maximum power	4. 5kW
Waveform distortion (T. H. D)	≤3%
No-load speed	3850min ⁻¹
Cooling mode	Forced air cooling
Insulation class	1P23
Class of protection	H
Net weight	33KG
Gross weight	35KG
Overall size	522*440*505mm

Third, the whole machine structure

Note: The following photos and for reference, please prevail in kind!

Third, the whole machine structure



- | | | |
|-------------------------|--------------------|-------------------|
| 1: Air filter | 5: Panel assembly | 9: Refueling port |
| 2: starts the pull disk | 6: inverter | 10: Engine |
| 3: Fuel tank | 7: Weld the socket | 11: Cylinder head |
| 4: Rack | 8: Oil switch | 12: Muffler |

Fourth, the operation before starting

4.1 Before starting the welding machine, please read this manual carefully, fully understand the operating procedures, and do not blindly start the equipment.

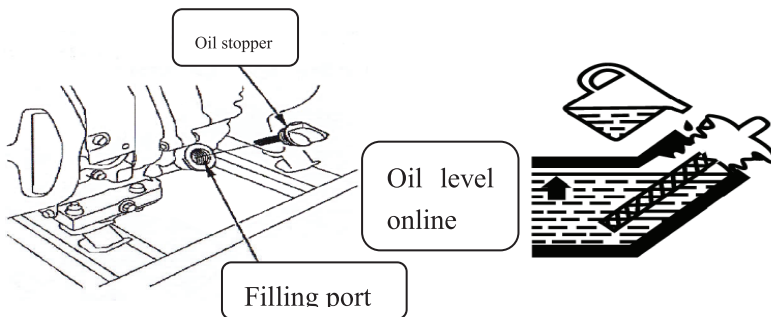
4.2 Check whether the welding machine parts are complete, and whether the connecting parts such as bolts and nuts and joints are loose or broken or broken, if any, should be repaired in time.

4.3. Check the oil level of the welder oil (the equipment should be on a flat ground, check the oil level of the oil when it is stopped);

4.3.1 Take out the oil level gauge of the oil and wipe it clean.

4.3.2 After the insertion is completed, take it out to check the oil level of the oil.

4.3.3 If the measured oil level is close to or lower than the lower line mark on the oil level gauge of the oil, please open the protective cover, expose the oil stopper, unscrew the oil stopper, and add the recommended oil to On the line mark. (See below)



4.4 Engine oil recommended.

4.4.1 Engine oil is a major factor affecting engine performance and service life. Please use 4-stroke gasoline engine oil that meets or exceeds the API classification SE or equivalent. Please check the API classification label on the oil package to ensure it has SE or equivalent letters.

4.4.2 Regularly check and replace the oil to avoid malfunction caused by the oil surface being too low, too high, too dirty, too thick.。

4.4.3 SAE10W-30 engine oil is recommended. When the local average temperature is within the recommended range, the oil of other viscosities shown in the chart can be used.

4.5 Check if the fuel is added enough, and add fuel to the filter. The tank should have proper space to prevent accidents due to fuel expansion. Cover the fuel tank cap after filling the fuel. Gasoline number: 90# or above. Do not use stale or contaminated gasoline or petrol/petroleum mixture to avoid dirt or water droplets in your mailbox.。

4.6.1 Open the air filter clip and open the air filter cover.

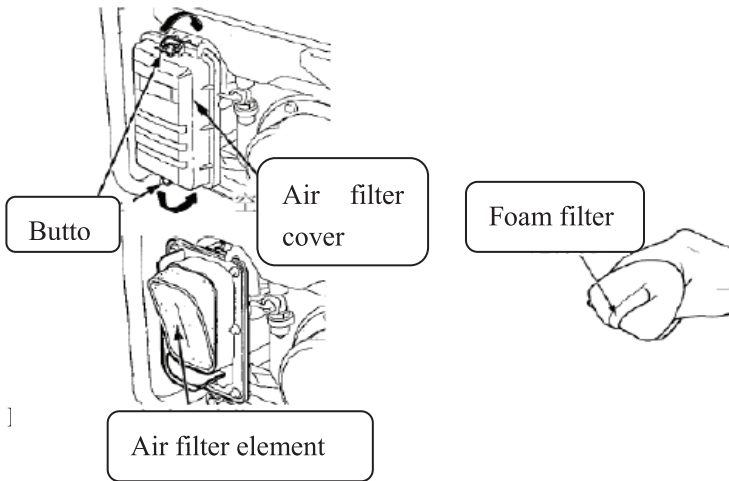
4.6.2 Loosen the hook from the fixing pin hole of the air filter box and remove the air filter cover, taking care not to damage the air filter cover.

4.6.3 Remove the filter element from the air filter cover.。

4.6.4 Check that the air filter element is clean and in good condition. If the air filter element is dirty, please clean it. If the air filter element is damaged, it must be replaced.

4.6.5 Reinstall the air filter element into the air filter bottom cover.

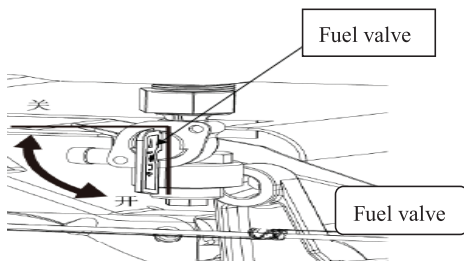
4.6.6 Reinstall the upper filter cover and observe the protective cover. Make sure the air filter is locked so that there is no gap between the upper cover and the lower cover. Operating the welder unit without the air filter element or the air filter element being damaged, dust will enter the engine, causing rapid engine wear.



5.1 Turn on the fuel switchThe “fuel valve” is located between the fuel tank and the carburetor. When the welding unit is operated, the fuel valve is placed in the “on” position, and the fuel valve is turned to the “off” position after the stop.

5.2 The damper handle is used to open and close the throttle valve in the carburetor. When the chiller is started,Set the damper handle to the "off" position to increase the concentration of the fuel mixture. The damper handle is in the "open" position and is mainly used to provide suitable operation for the starter welder.Suitable fuel gas mixture, as well as for heat engine start-up.

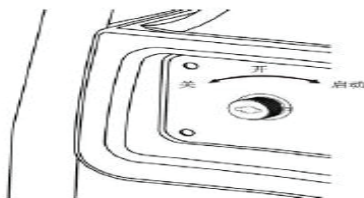
5.3 Starting and stopping the engine switch position operation



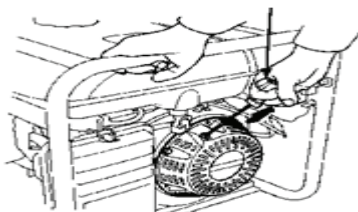
5.3.1 Electric starter unit: Please operate the start lock on the panel.

Off: stop running the welder unit Start: start the welder unit

Open: run the welder unit



5.3.2 Hand-started unit: First operate the start switch next to the starter puller to the “ON” position. Then gently pull the starter handle until you feel resistance and then pull quickly. Once unsuccessful, repeat until the unit starts successfully. After the start is successful, the start handle should be gently put back into the engine to avoid damage. Do not allow the rope to rub against the welder unit, otherwise the starter



rope will wear out.

Six, running

6.1 Ambient temperature: When welding: -10 °C ~ 40 °C.

- 6.2 During transportation and storage: -20 ° C ~ 55 ° C.
- 6.3 Relative humidity: at 40 ° C: relative humidity should be ≤ 50%; at 20 ° C: relative humidity should be ≤ 90%. Use altitude ≤ 1000 meters.
- 6.4 Tilt angle: The tilt angle of the welding power source should not exceed 10 degrees.
- 6.5 If the plug is shorted or shows overload, the circuit breaker will automatically shut down. If the circuit breaker is automatically closed, please check whether the other equipment outside the unit is working normally, and then check whether the load exceeds the rated load of the unit.
- Special reminder: The switch of the circuit breaker is not responsible for controlling the output of the welding power supply.
- 6.6 Connection between the soldering socket and the terminal workpiece: Provide a separate terminal. It is recommended to use the following parameters to select the electrode and the cable. Note: for reference only

Workpiece thickness (mm)	≤ 2	3	4~5	6~12	13以上
Welding rod diameter (mm)	1.6~2. 5	2.5~3. 2	3.2~4	4.0~5.0	5.0~6.0

Welding rod diameter (mm)	2.0	2.5	3.2	4.0	≥ 5.0
Welding current (A)	40~6 0	60~80	90~13 0	160~210	200-270

Seven, stop

7.1 Unloading the load: Turn off the breaker switch when the welder is turned on, stop the welding, let the unit run for no load for 3 minutes, and then turn the start switch to the “off” position.

7.2 If long-distance transportation or long-term parking of the unit is required, the load should be first removed when the machine is stopped, and then the fuel tank switch should be turned off. Finally, the unit is automatically operated to the stop state, in order to exhaust the fuel in the carburetor and avoid the carburetor. Carbon and grease.

7.3 After the unit is shut down, it should be checked: whether the outer nuts and joints of each group are loose.

Eight, maintenance and maintenance

Good maintenance is a prerequisite for safe, economical, trouble-free operation and also helps to reduce environmental pollution. To help you with proper maintenance of the welding unit, the following items will include maintenance schedules, routine monitoring procedures, and simple maintenance procedures using basic tools, as well as other difficult maintenance tasks that require specialized professional tools. It is best to operate by a professional or a technician. In dusty areas, the frequency of maintenance should be increased.

Maintenance schedule:

Daily maintenance cycle

Item: based on the running target month or the running hour to maintain		each time	the first month or 20h	every 3month or 50h	every 6month or 100h	every 1year or 300h
ENG oil	check the level	○				
	change		○		○	
Air cleaner filter	check	○				
	clean			○		
Sedimentation glass	clean				○	
Spark plug	check-adjust				○	
	replace					○
Valve clearance	Check -adjust					○
Combustion chamber	clean		every 500h			
Case and filter	clean					○
Fuel hose	check	○	every two years(if necessar,please replace)			

8.1 Oil replacement (oil oil is unloaded when warming up to ensure quick and complete draining of oil.

8.1.1 The welder unit is placed on the wooden frame above the floor to ensure space for the unloading container, and the oil stopper, oil discharge bolt and sealing ring are removed.

8.1.2 Clean the oil, then re-tighten the oil-removing bolt, replace it with a new one, and tighten.

8.1.3 Inject the recommended oil until the upper limit mark shown on the oil feeler gauge tightens the oil gauge.

8.1.4 After disposing of the used oil, wash your hands with soap and water. Note: Handling used engine oil should pay attention to protect the surrounding environment. We recommend that you put it in a sealed container and send it to the waste disposal site or waste recycling service station for disposal. Do not throw used oil into the garbage. Or fall to the ground and the sewer.

8.2 Cleaning of air filter element

8.2.1 Clean the filter element with warm soapy water, rinse and dry, or clean the filter element with a non-combustible solution and allow to dry.

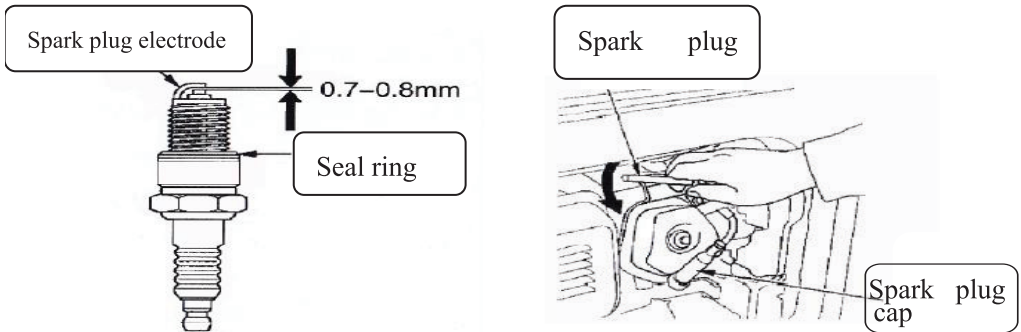
8.2.2 Invade the filter element into clean oil and squeeze out excess oil. (If there is too much oil left in the filter element, the welder unit will smoke when it starts.)

8.2.3 Wipe off the dust on the air filter holder and the air filter cover with a damp cloth, taking care not to allow dust to enter the air tube leading to the carburetor. Note: Dirty air filter elements can impede air from entering the carburetor, reducing engine performance. If the welder unit is used in places with a lot of dust, the air filter element is cleaned more frequently than specified in the maintenance schedule.

8.3 spark plug maintenance In order to ensure the normal operation of the welder unit, the spark plug gap must be adjusted correctly and the

carbon deposits removed. Incorrect spark plugs can cause engine damage. If the engine is in a hot state, perform maintenance on the spark plug after it has cooled down.

8.3.1 First clean the dirt around the spark plug, then remove the spark plug cap, and finally remove the spark plug with a special wrench for the spark plug.



spark plug and replace the spark plug if the electrode is worn or the insulator is broken, damaged or corroded.

8.3.3 Use the plug gauge to measure the gap of the spark plug electrode. If necessary, bend the side of the electrode to adjust the gap. Spark plug clearance: 0.7-0.8mm

8.3.4 Ensure that the spark plug seal is in good condition and screw the spark plug in by hand to avoid tightening too tightly. After the spark plug is tightened, tighten the seal with a spark plug wrench. If it is a used spark plug, tighten 1/8-1/4 turn after the spark plug is tightened. If it is a new spark plug, tighten 1/2 turn after the spark plug is tightened. Note: If the spark plug is not tightened, it will cause the engine to overheat and damage. The spark plug is over tightened and can damage the threads of the cylinder head.

8.3.5 Install a spark plug cap.

8.4 Battery Maintenance The charging system of the welder unit charges

the battery while the engine is running. However, most of the welder units are only used periodically, and the batteries must be recharged every month to maintain battery life and ensure the effectiveness of the unit startup.

8.4.1 Highly corrosive and toxic sulfuric acid (electrolyte) in the battery. Eyes or skin that hit the electrolyte can be severely burned.

8.4.2 When working near the battery, please wear protective clothing and eye protection to keep the battery away from children. CAUTION: Inadvertently rubbing your eyes: Rinse with water in a cup or other container for at least 15 minutes (pressured water can damage your eyes) and take immediate medical attention.

Inadvertently get on the skin: Take off your clothes, rinse your skin with plenty of water, and take immediate medical attention. Inadvertently enter the body: drink plenty of water or milk, and then take immediate medical measures.

8.5 fuel

8.5.1 Depending on the area where you use the welder unit, the gasoline will deteriorate and oxidize to varying degrees. Even in such a short period of 30 days, the gasoline will deteriorate and oxidize, causing damage to the carburetor and fuel system. , so please consult your local dealer for the storage method.

8.5.2 Gasoline deterioration can cause start-up difficulties and leave a gelatinous deposit to block the fuel system. If the gasoline in your welder unit deteriorates during storage, you may need to repair or replace the carburetor and other fuel system components.

8.5.3 The time that gasoline can remain in the fuel tank and carburetor without causing performance problems can vary depending on various factors, such as gasoline mixing, storage temperature, and whether the fuel tank is full. Air can accelerate fuel deterioration in fuel tanks that are not fully refueled. The same high storage temperature will accelerate

the deterioration of the fuel. If the fuel added to the fuel tank is not new enough, the fuel will deteriorate in a few months or even less.

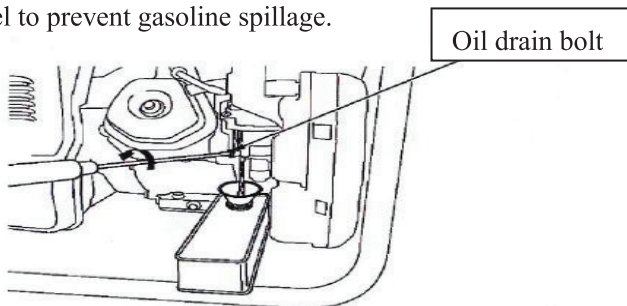
8.6 Remove the fuel tank and the gasoline in the carburetor **WARNING:** Gasoline is highly flammable and explosive. You may be burnt or seriously injured when handling fuel. Turn off the engine and keep away from heat, sparks and flames. Only deal with fuel outdoors, and wipe off the spilled fuel in time.

8.6.1 Place a suitable petrol container under the carburetor and use a funnel to prevent gasoline spillage.

8.6.2 Loosen the carburetor unloading screw and drain the gasoline in the carburetor.

8.6.3 After draining the gasoline into the container, tighten the oil drain bolt.

8.6.4 Place a suitable petrol container under the sedimentation cup and use a funnel to prevent gasoline spillage.



8.6.6 Remove the sedimentation cup and turn the fuel valve to the ON position. Drain the gasoline completely and then replace the pellet.



Note: Sometimes you may hear metal knocking noise during heavy load operation and it does not attract people's attention. If the sound is emitted under normal engine operation, please change the gasoline brand and label immediately. If the abnormal noise still exists after replacement, please contact our authorized dealer. Long-running the welder unit after metal knocking noise may cause damage to the engine. The machine will be operated for a long time under such a knocking sound. The damaged parts are not covered by the dealer's warranty.

Nine, common faults and treatment methods:

Fault phenomenon	Cause of issue	Troubleshooting
Unable to start	1, the battery voltage of the unit is too low 2, the fuel switch is not open 3. The choke valve is not open. 4. The oil level is too low. 5. The oil warning system is faulty. 6. The fuel quality is not good. 7. The oil circuit is blocked. 8. The ignition system is faulty. 9. The carburetor is faulty.	1. Solve charging the battery (electric start only) 2. Turn on the fuel switch. 3. Refer to step 3 of the startup. 4. Check the oil level and fill it in place. 5. The oil alarm line can be unplugged and restarted to determine (but after the determination, it should be stopped immediately). 6. Replace the fuel. 7. Clean up the oil circuit. 8. Check and clean the cremation plug and check the ignition coil. 9. Clean or repair the carburetor.

Hair welder has no output voltage	<ol style="list-style-type: none"> 1. The welding machine lead wire and the panel connecting wire are detached or have poor contact. 2. The inverter temperature exceeds 75 °C. 3. Short circuit. 4. The motor burned out. 5. The circuit breaker is not open. 	<ol style="list-style-type: none"> 1 check and repair. 2. Shut down and restart the unit. 3. Replace. 4. Check and repair if the motor windings are not replaced. 5. Open the circuit breaker. (auxiliary power only)
Power output voltage is too high or too low	<ol style="list-style-type: none"> 1. The speed is too low or too high. 2. The inverter system is broken. 3. Overload. 	<ol style="list-style-type: none"> 1. Adjust the speed. 2. Replace the inverter. 3. Reduce the load.
The output current is too large or too small.	<ol style="list-style-type: none"> 1. The speed is too low or too high. 2. There is a problem with the rectifier module. 3. The winding has a short circuit, open circuit, and ground. 4. The panel is not open/closed. 	<ol style="list-style-type: none"> 1. Adjust the speed. 2. Replace the rectifier module. 3. Replace the sampling transformer coil or connect again. 4. Turn on/off the open.
Smoke in	<ol style="list-style-type: none"> 1. The rotor and the rotor 	<ol style="list-style-type: none"> 1. Replace or repair.

the welder	<p>are rubbed.</p> <p>2. The load is too heavy.</p> <p>3. The winding is shorted or grounded.</p> <p>4. The rectifier bridge on the inverter is short-circuited and grounded.</p>	<p>2. Remove some of the load.</p> <p>3. Replace the motor winding assembly.</p> <p>4. Replace the rectifier bridge.</p>
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X. Schematic

