
APOLLO

OWNER'S MANUAL

Air-cooled diesel engine generator set

Model AED6500X(E)/AED6500X(E)3



PREFACE

Thank you for purchasing products from our company .We appreciate your business. The following manual is only a guide to assist you and is not a complete or comprehensive manual of all aspects of maintaining and repairing your generator. The equipment you have purchased is a complex piece of machinery. We recommend that you consult with a dealer if you have doubts or concerns as to your experience or ability to properly maintain or repair your equipment. You will save time and avoid the inconvenience of having to go back to the store if you choose to write or call us concerning missing parts, service questions, operating advice, and/or assembly questions. Our air-cooled diesel generators have some of the following features:

- Lightweight construction
- Air cooled
- Four-stroke diesel internal combustion engine
- Direct fuel injection system
- Recoil starter or an optional electric starter
- Large fuel tank
- Automatic voltage stabilizer
- NFB circuit protector
- AC and DC outputs
- Low oil pressure sensor

APOLLO brand air-cooled diesel generators are widely used when electrical power is scarce. Our generators provide a portable mobile solution in supplying power for field operations during project construction. Some other known applications include pipeline construction and metal welding when electrical power is not available.

This manual will explain how to operate and service your generator set.

If you have any questions or suggestions about this manual, please contact your local dealer or us directly. ***Consumers should notice that this manual might differ slightly from the actual product as more improvements are made to our products. Some of the pictures in this manual may differ slightly from the actual product as well. APOLLO POWER INDUSTRIAL CORP. reserves the right to make changes at any time without notice and without incurring any obligation.***

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CHAPTER 1. TECHNICAL SPECIFICATIONS AND DATA

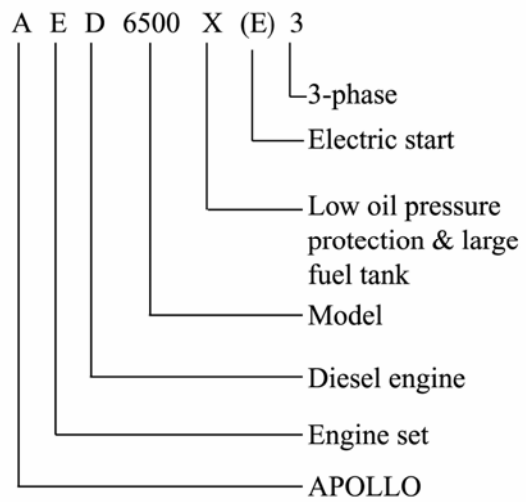
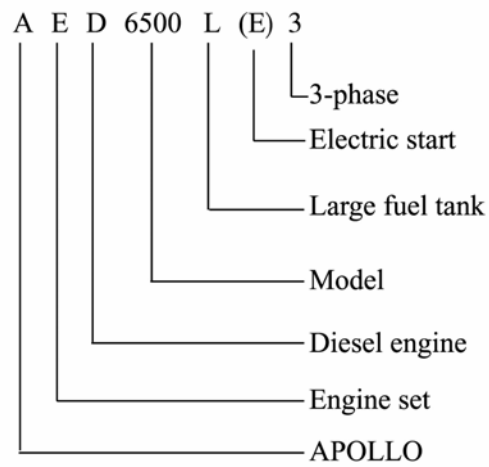
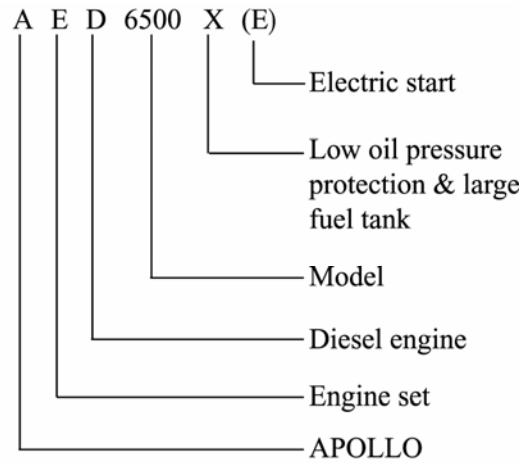
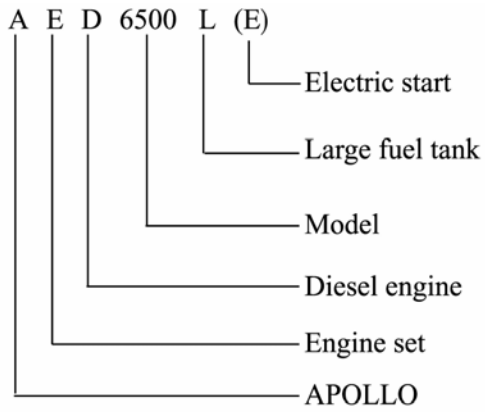
1-1 Technical specifications and data

APOLLO Single-cylinder diesel generator

Model	AED6500L(E) AED6500X(E)	AED6500L(E)3 AED6500X(E)3
Rated frequency (Hz)	60	60
Rated voltage (V)	220、230、240、110/220、 115/230、120/240	380/220、400/230、420/240
Rated output power (kVA)	4.5	4.5
Max output power (kVA)	5	5
Rated rotation speed (rpm)	3600	3600
Power factor cosφ	1	1
Phase number	Single	Three
Pole number	2	3
Excitation Transistorized	self-excitation , Brushless	self-excitation constant voltage (AVR)
ATS type	without ATS	without ATS
Structure type	Open-frame	Open-frame
Fuel consumption(g/kw.h)	340	340
Fuel tank capacity(L/gal)	12.5(3.3)	12.5(3.3)
Continuous running time(hr) (at rated power)	7.5	7.5
Noise level [dBA/7m] (zero load~full load)	75-79	75-79
Net weight (kg/lbs)	L:94(207); E:128.5(283.3)	L:94(207); E3:128.5(283.3)
Overall dimension [mm/inch](L×V×H)	735×505×630 (28.67×19.88×24.8)	735×505×630 (28.67×19.88×24.8)
Starter system	recoil starter/electric starter	recoil starter/electric starter
Fuel type	0# (summer), -10# (winter), -35#(chill cold) diesel	0# (summer), -10# (winter), -35#(chill cold) diesel
Lube oil brand	CD or better than CD	CD or better than CD
Engine model	CF186F(E)	CF186F(E)
Engine type	Single-cylinder,4-stroke,air-cooled,vertical,diesel engine	Single-cylinder,4-stroke,air-cooled,vertical,diesel engine
Bore × stroke(mm)	86×72	86×72
Displacement(cm ³)	0.418	0.418
Compression ratio	19: 1	19: 1
Rated power [kW(hp)/rpm]	5.8(7.9)/3600	5.8(7.9)/3600
Max. power [kW(hp)/rpm]	6.3(8.6)/3600	6.3(8.6)/3600
Rotation direction (from the flywheel)	clockwise	clockwise

Note: Get this power only after 30 hours' initial run.

TECHNICAL SPECIFICATIONS AND DATA



1-2 Basic operating parameters

1-2.1 Under the given conditions, the generator will output the specified power in the table listed below.

Table 1.

Height above sea level (ft)	Ambient temperature (° F)	RH
0	+60 (+20 ° C)	60%

1-2.2 Under the given conditions, the generator will output the stipulation power in the table listed below.

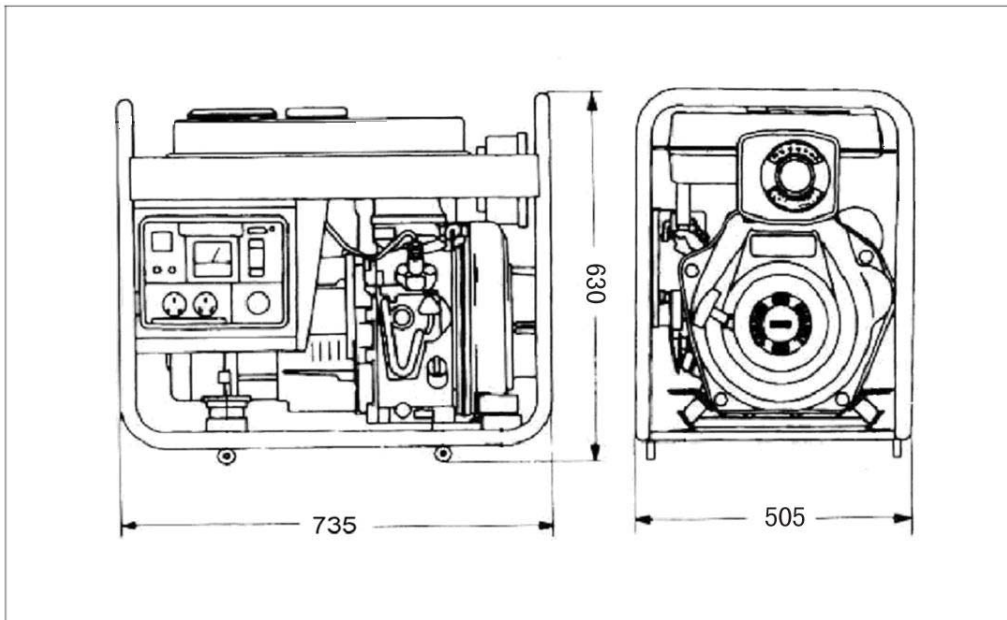
Table 2

Height above sea level (ft)	Ambient temperature (° F)	RH
<3280.8 (<1000 m)	41~104 (5-40 ° C)	90%

1-3 General dimensions and overview of the generators

1-3.1 AED6500X(E)/AED6500L(E)/AED6500X(E)3/AED6500L(E)3

dimensions of the series generators



CHAPTER 2 OPERATING THE DIESEL GENERATOR

2-1 General main points of safety during operation of the generator set.

In order to operate the generator set safely, please follow all the instructions provided in this manual carefully. Doing so otherwise may lead to accidents and or equipment damage.

2-1.1 Fire prevention

The proper fuel for the diesel generator set is light diesel fuel. Do not use gasoline, kerosene and or other fuels other than light diesel fuel. Keep all flammable fuels away from the generator as the generator may spark and ignite these gases. In order to prevent fires from occurring and to provide enough ventilation for people and the machine, keep the diesel generator at least 1.5 meters away from buildings and or other equipment. Always operate your diesel generator on a level site. If the generator is operated on an incline, the lubricating system within the engine will not perform well and may lead to failure of the engine.

2-1.2 Prevention from inhaling exhaust gases

Never inhale exhaust gases emitted by the engine. The exhaust gases contain toxic carbon monoxide. Never operate your generator in places with poor ventilation. In order to operate this machinery indoors, a suitable ventilation system for the building is required to draw the poisonous exhaust gases out.

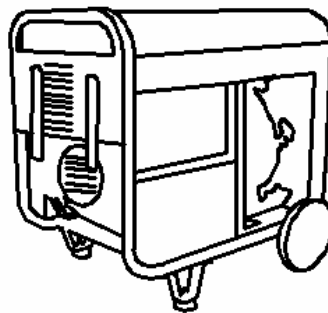
2-1.3 Prevention from accidental burns

Never touch the muffler and its cover when the diesel engine is running. Never touch the muffler and cover after the diesel engine has been used, as the muffler remains hot for a good period of time.

2-1.4 Electric shock and short circuits

Never touch the generator if the generator is wet. Also never touch the generator if your hand is wet. Never operate your generator if the weather conditions call for any type of precipitation such as rain, snow, or fog. To prevent electrical shocks, the generator should be grounded. Use a lead to connect the grounding end of the generator to the grounding surface of choice. Please refer to Fig. 2-1 before beginning to use the electric generator.

Fig 2-1



Note: When connecting devices to the generator, make sure all other devices are rated lower than the generators output. Any generator socket should not be overloaded over its regulated limit.

2-1.5 Other safety points

Before operating this generator, all operators should have a good knowledge of how to break the circuit if any accidents occur. Also, all operators should be familiar with all the switches and functions of the generator before using this machine. While operating the generator, wear safe shoes and suitable clothes during operation. Always keep children and animals away from the generator.

2-1.6 Battery

The electrolytic liquid of the battery also known as battery acid contains sulfuric acid. In order to protect your eyes, skin, and clothing, wear protective gear when working with the battery. If you come in contact with the electrolytic liquid, wash it immediately with clean water. Also, if the electrolytic liquid comes in contact with your eyes, see a doctor immediately.

2-2 Preparation before operation

2-2.1 Fuel choices and fuel treatment

Fuel tank

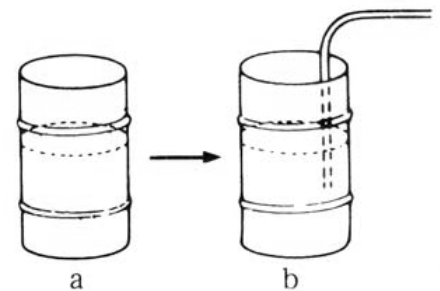
Use only light diesel fuel. The fuel should be filtered clean. Never let dust and water mix with fuel in the fuel tank. Otherwise it will clog the fuel lines and oil nozzles. It may also damage your pressure pump.

Note: It is dangerous to overfill the fuel tank. Never exceed the red piston in the filter.

Type	AED6500X(E)/AED6500L(E) AED6500X(E)3/AED6500L(E)3
The effective volume of fuel tank: (L)(US. gal)	12.5 (3.3)

a. After purchasing fuel, put it into a drum and let it sit for 3-4 days.

b. 3-4 days later, insert half of the fuel sucker into the drum, (water and impurities stay in the lower portion of the drum)

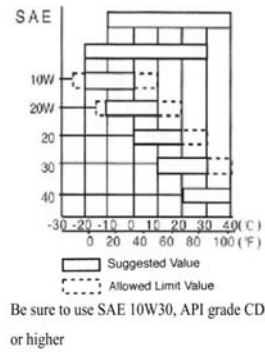
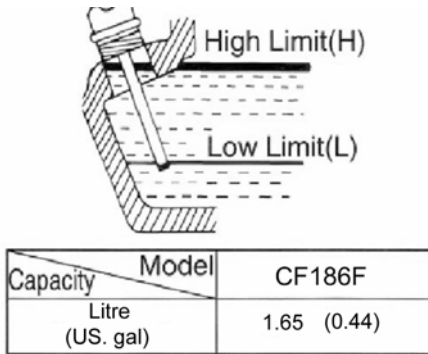


Note:
Never smoke near the opening of the fuel tank. Do not let sparks get near the fuel or fuel tank and do not overfill tank. After filling, tighten the fuel cap.

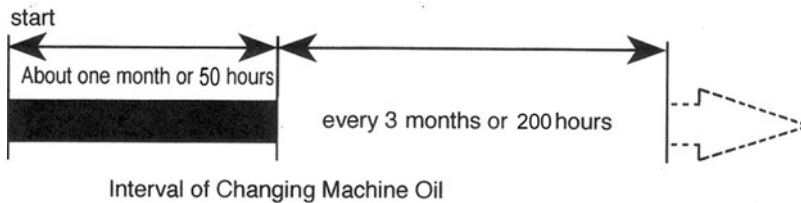
2-2.2 Filling engine oil

Remove the dipstick from the engine

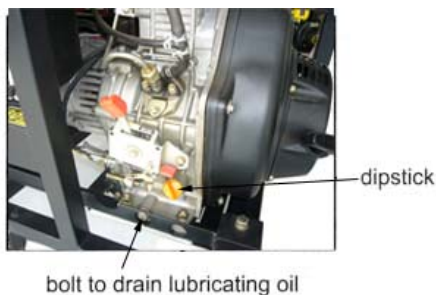
Make sure the generator is on level ground, and fill the engine with 10W30 engine oil. Put the dipstick back into the hole to check the engine oil level.



Engine oil is the most important factor in determining the life of your generator engine. If you use poor engine oil or if you don't change the oil regularly, the piston and cylinder will wear easily or seize up. Also, the life of the other parts in your engine such as bearings, and other rotating parts will shorten considerably.



Although there is an alarm system to check for low oil pressure, it is always a good idea to check the amount of oil inside the engine. If the oil level is low, fill it before starting the engine. A good time to drain the oil from the engine is when the diesel engine is still hot. If the engine is fully cooled, it is more difficult to drain all the oil out or some impurities will remain in the engine.



Warning: Don't fill engine oil when diesel is operating.

2-2.3 Checking the air filter

Loosen the butterfly nut, take the cover of the air filter off and take the air filter element out.

Do not use detergent to wash the air filter element. When the performance of the engine decreases or when the color of the exhaust gases is bad, exchange the filter element. Never start engine without the air filter as foreign objects may enter the intake and damage the engine.



Use dry compressed air (with pressure about 1.96×10^5 Pa) to blow the dust out in the electric control cabinet and at the surface of the generator. Check to see how clean the surface of the sliding ring is. Check the pressure of the carbon brush. Also, check whether the position of the carbon brush at the slide rig is correct and the fixture is reliable with a good contact.

According to the electric wiring diagram, check to see whether the connecting wire is correct and the connected place is firm.

Use a 500 M Ω meter to measure the insulation resistance of the electrical part. The resistance should be no less than 5M Ω . When measuring devices, make sure the AVR is turned off. Otherwise, it will burn the AVR. (For the low noise set, the inspection may not be performed).

2-3 Checking the operation of the diesel engine

2-3.1 Low-pressure alarm system.

CF diesel engines have a low-pressure sensor system where if the oil pressure drops too low, the sensor will shut the engine off. The purpose of having this system is to ensure that the engine does not seize up. If there is not enough oil in the engine, the temperature of the oil will be raised too high. On the contrary, if there is too much oil in the engine, the engine oil can slow the engine down considerably.

2-3.2 Engine break in

When you purchase a brand new engine, the engine must be properly broken in. The break in period is about 20 hours.

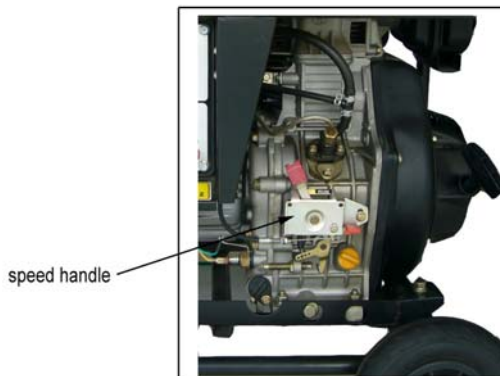
- (1) Avoid overloading the engine when brand new
- (2) Change the engine oil according to specifications. An oil change for a brand new engine is about 50 hours or every month, an older engine, the oil change is about 200hours or three months.

2-4 Starting the generator set

2-4.1 Manual starting.

Start the engine in accordance with procedures below:

- (1) Put the fuel switch in the "On" position.
- (2) Turn the handle of the engine to the "RUN" position.
- (3) Pull the recoil starter handle out until you feel resistance. It will reset to its original position automatically. The handle should be reset into its recoil device slowly to prolong the life of the engine starter.

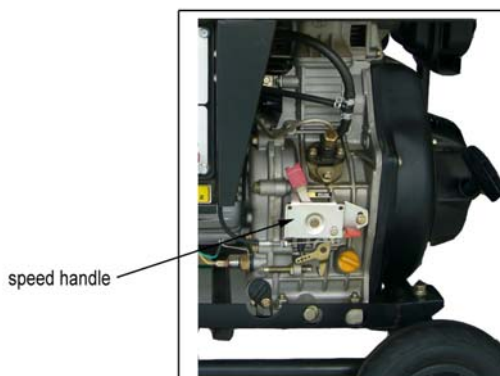


2-4.2 Electric starting

The procedures for preparing to start the engine are the same as the manual starting engine.

2-4.3 Battery

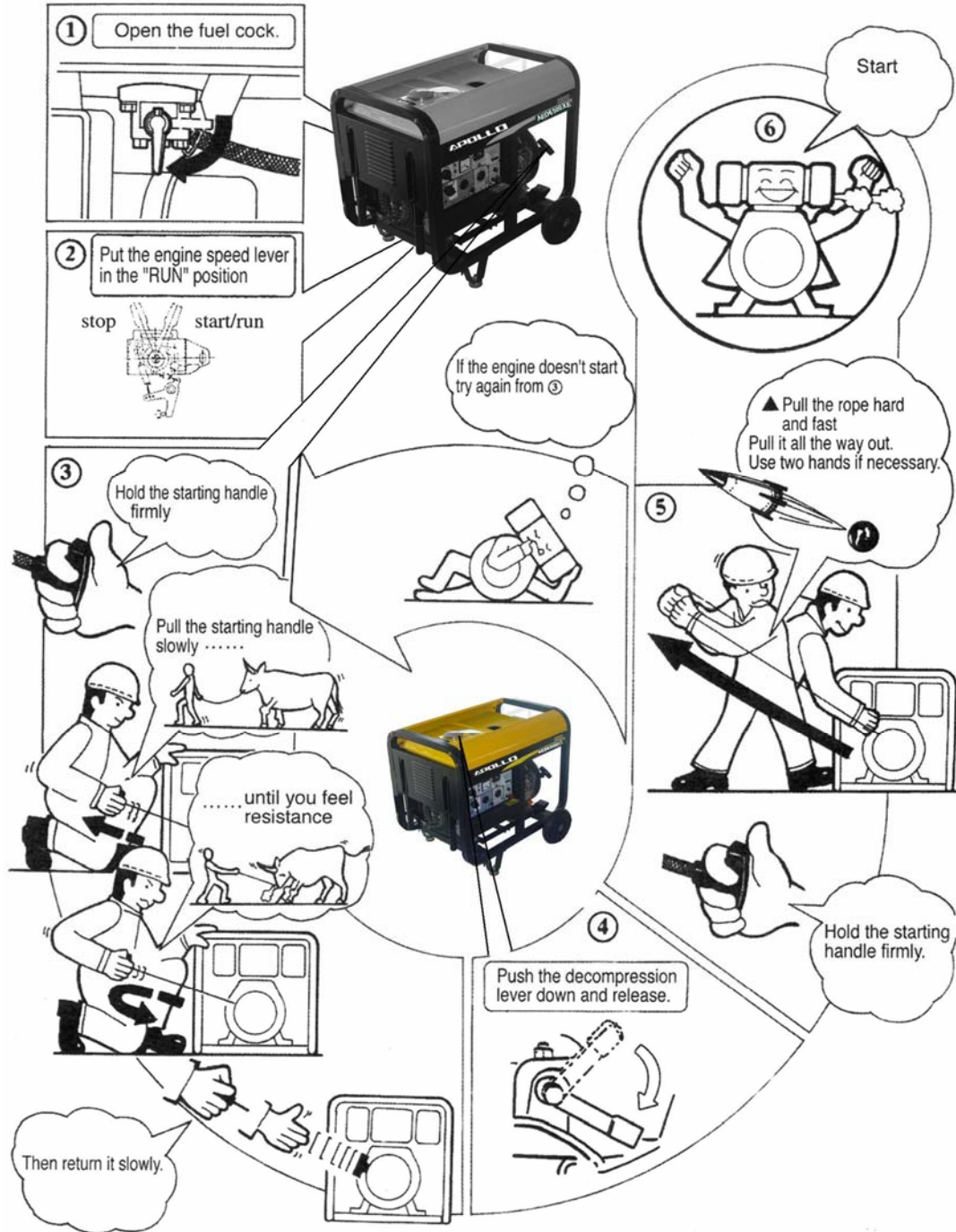
1. Insert key into ignition and put it in the "off" position.
2. Put the speed handle in the "Run" position.
3. Turn the start switch clockwise to the "START" position; (to set the silent type, first turn it clockwise to the "RUN" (ON) position for 1-2 seconds. The electromagnetic iron will be triggered, now turn it clockwise to the "START" position.
4. After the diesel engine is started, remove your hand from the switch handle; the switch will automatically reset itself to the "ON" position.
5. If the engine is not starting after 10 seconds of cranking, wait about 15 seconds before trying it again. If you crank too long, the voltage of the battery will drop. This can lead to improper ignition. When the diesel engine is operating, let the ignition retain on the "ON" position.



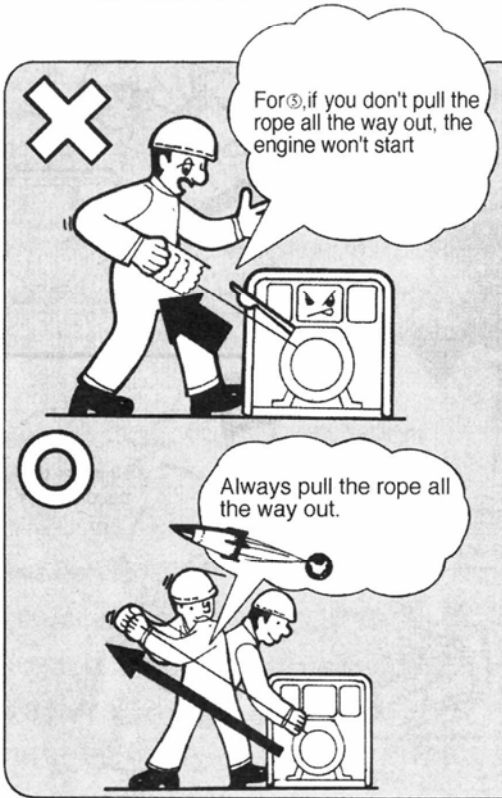
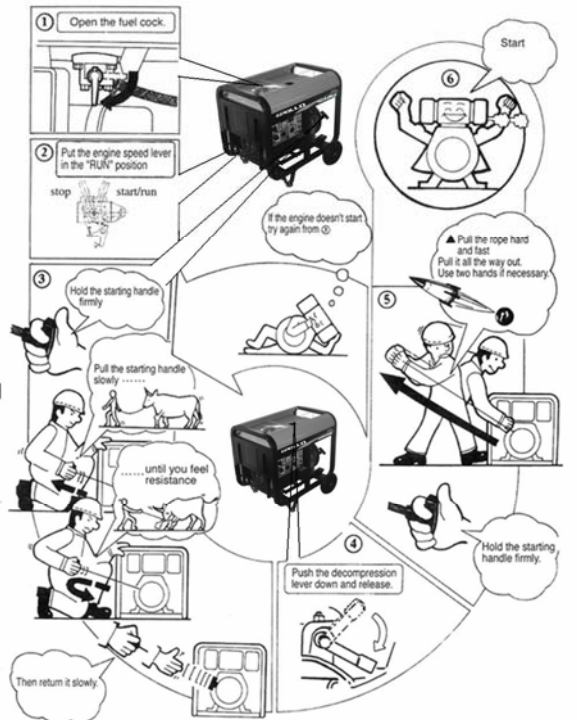
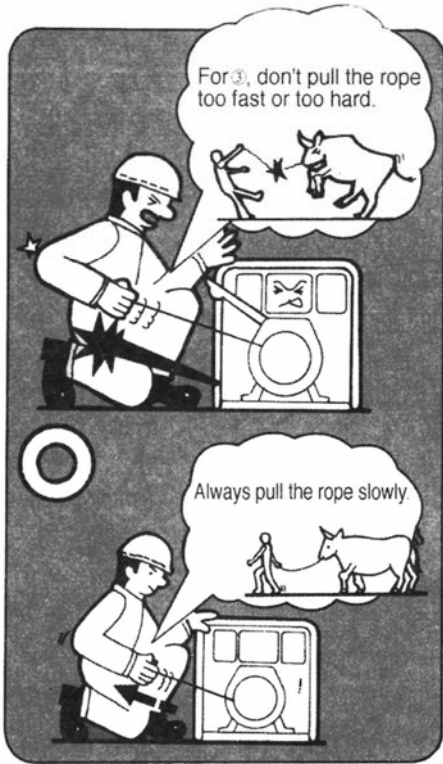
Note: If you crank the starter too long, the battery may be drained too much to provide enough energy for proper engine ignition. Also, when the diesel engine is operating, let the key retain in the "ON" position.

2-5 Procedures for starting the generator set

This procedure applies to the series recoil starting style models.



OPERATION THE DIESEL GENERATOR



2-6 Proper operation of the generator set

2-6.1 Operating the diesel engine

1. Pre-heat the diesel engine for 3 minutes under no load conditions.
2. First check the height of the lubricating oil level, if it is low, refill it. Our diesel engines are equipped with an alarm system that will notify you if the oil pressure is too low. The alarm system will shut down the engine if the oil pressures too low.
3. Do not adjust the speed limit regulation bolt or the fuel adjustment bolt. These bolts have been set by the factory already, changing them will affect the properties of the engine performance.



High-pressure fuel pipe nut

Fuel adjustment bolt

2-6.2 Checks during engine operation

1. Check to see if there are abnormal noises.
2. Check to see if the performance is good or bad
3. Check the color of the exhaust gases (whether it is too black or too white). If any of these conditions exist, stop the engine and find the cause of the problem. If no problems are found, please contact your local dealer or our nearest company branch.

2-7 Loading

2-7.1 Load conditions

Exert loads in accordance with the specified parameters.

2-7.2 Output of electricity

1. Raise the revolutions per minute (turn the speed handle to the max setting) of the generator to get the maximum power out of the generator. If not, the automatic voltage regulator device will excite and doing this for long periods of time will cause the AVR to burn. For the rated speed of the generator, please refer to Chapter 1, item 1-1 technical specification and data.
2. Observe the pointer of the voltmeter, it should point to 240 (60Hz). Meanwhile put the switch in the GEN (generator) position. The AC voltage from the socket of the power supply can be output.
3. When connecting devices to the generator, make sure to connect these devices in order. Connect the large loads onto the generator first. If everything is functional, smaller loads can then be added. If the generator shuts off, it may be because the load being drawn by all the various devices are too high. In this event, decrease the number of small devices until everything is functional. The total drawn power should not exceed the maximum output power of the generator. Please see Table 1-1 for technical specifications of what the generator can output. In order to reset the generator after overdrawn power, let it sit for several minutes. If the indication of the voltmeter is too high or too low, adjust the speed accordingly. If there are problems, stop the generator immediately and fix the issue.
4. During operation, the generator should be in a place that has very good ventilation. Never cover the engine to solve a ventilation problem, as this will damage your equipment.

Note: Do not start more than two devices simultaneously. Each device should be started one by one to prevent overloading the generator. The generator should be running at 3600 revolutions per minute in order to achieve the (60 Hz) frequency. The speed of the engine can be adjusted from the speed governor.

2-7.3 Charging the battery

1. For the electric starter on the generator sets, the 12V battery is automatically charged through the regulator on the side of the engine when it is running.
2. If the generator is not used for long periods of time, the battery should be disconnected to avoid energy loss from the battery.
3. Do not connect the negative and positive terminals of the battery together at any time. Doing so will damage the battery and cause serious injuries.
4. Do not reverse the polarities when attaching the battery cables to the battery. Doing so will damage both the battery and the electric starter.
5. When charging the battery, the battery produces flammable gases. Do not smoke, let flames, and sparks get near the battery while it is charging as this may cause a fire.

To avoid sparking while connecting the cables to the battery, first, connect the cables to the battery then to the motor. To disconnect battery cables, first disconnect the motor end of the cable.

2-8 Stopping the generator

1. Take the electrical load off the generator.
2. Put the speed handle in the "RUN" position and let the engine run for 3 minutes after unloading. Do not stop the diesel engine immediately let it warm down. Stopping the diesel engine suddenly may raise the temperature of the engine abnormally and lock the nozzle and damage the diesel engine.



Note:

1. If the speed handle is in the "Stop" position and the engine is still running, turn the fuel switch to the "OFF" position or loosen the high pressure oil pipe nut. The engine could be stopped more than one-way other than the speed handle way.
2. If you cannot stop the engine with a load on it, then remove the load first than stop the engine.
3. Press down on the brake handle
4. If equipped with an electric starter, turn the key to the "Off" position
5. Put the fuel handle to the "S" position
6. Finally, pull slowly on the recoil handle until you feel resistance (this is when the piston is on the compression stroke, where the intake and exhaust valves are closed). What this does is prevent the engine from rusting when not in use.



fuel switch

Loose the nut
(nut of high
pressure oil pipe)



CHAPTER 3 MAINTENANCE

3-1 Maintenance schedules

Keeping your generator well maintained will prolong the life of your generator. Everything needs to be checked including the diesel engine, generator, control cabinet, and frame. For overhauling procedures, please refer to the instruction manual of the relative subassembly. If you need these manuals, please call our company and we will send you one.

Before starting the maintenance, make sure the diesel engine is off.

Please refer to the Table 3-1 for the proper maintenance schedule.

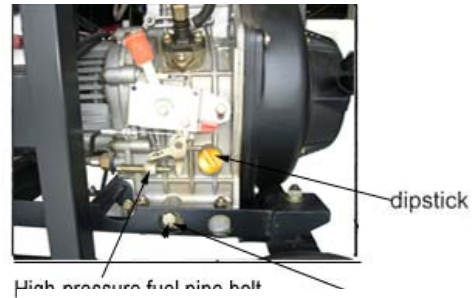
Table 3-1. Maintenance schedule for diesel welder generator set

time item	Everyday	After month 50hours	1 or	Every month or 200 hours	3	Every 6 month or 400 hours	Every 1year or 1000 hours
Check the fuel level and refill	○Before starting						
Drain the fuel tank		○					
Check and fill enough engine oil	○						
Clean the fuel filter				○			
Check fuel oil leakage	○after every operating						
Check and screw each fastened part	○					●screw the bolt of cylinder head firmly	
Check injector						●	
Check injection pump							●
Check fuel pipe						●If necessary exchange it	
Check the lube. oil level in the oil pan and refill	○before starting						
Replace the lube. oil		○the first time		○the second time and afterward			
Clean lube. Oil filter		○the first time		○the second time and afterward			
Check the air cleaner element		○the first time		○the second time and afterward			
Change the core of air filter	If damaged or smeary , change it in time						
Check the battery liquid level and refill	○						
Adjusting the intake and exhaust valve clearance		●the first time				●the second time and afterward	
Grind air intake and air exhausted gate							●
Exchange piston ring							●
Check electric brush and slide ring						●	
Check insulation resistance	The time of stop is over 10 days ○						

Note: the quality period of the injector and injection pump is 1500 hours or two years. There into, ● means it should operate with special tools, or can be checked by dealer.

3-1.1 Changing the engine oil

Take the oil cover off. Remove the oil drain plug when the diesel engine is still hot. Be careful of hot oil and hot engine as you may get burned. The bolt is located at the bottom of the cylinder. After draining the oil, put the bolt back and tighten it. Then fill with the proper engine oil to the proper level.



3-1.2 Air filter maintenance schedule

1. Clean air-filter every 6 months or 400 hours of operation.
2. If necessary, exchange it.
3. Do not use detergent to clean air filter element.

Note: Never start the engine without the air filter. This can cause serious damage to the engine if foreign objects enter the intake system. Always change the air filter on time.



3-1.3 Fuel filter maintenance

1. The fuel filter should be cleaned often to keep the engine running at maximum performance.
2. The recommended time period for cleaning the fuel filter is 6 months or 400 hours of operation.
 - a. To do this, first drain the fuel from the fuel tank.
 - b. Loosen the small screws on the fuel switch and remove the fuel filter from the port. Use diesel fuel to clean the fuel filter. Also, remove the fuel injector and clean the carbon deposit around it. The recommended time period for this is 3 months or 200 hours.

3-1.4 Cylinder head bolt tensions

The cylinder head bolts should be tightened to specifications please refer to the diesel engine manual for specifications and the special tools required to do this.

3-2 Storing for long periods of time

If your generator needs to be stored for long periods of time, the following preparations should be made.

1. Start the diesel engine for 3 minutes then stop it.
2. When the engine is still hot, change the engine oil with new engine oil of the proper grade.
3. Pull the rubber plug out of the cylinder head cover and put 2cc of lubricating oil in it, then cover the plughole up again.
4. For manual starting generator welders, press the decompression handle down and pull the recoil handle 2 or 3 times. This pushes the intake out. (Do not start the engine)
5. For electric started generator welders, press the decompression handle down and crank the engine for 2-3 seconds. To do this, put the starter switch in the "Start" position. (Do not start the diesel engine)
6. Finally, pull the recoil starter until you feel resistance; this is when the piston is on the compression stroke where the intake and exhaust valves are closed. Having the intake and exhaust valves closed will prevent rust, as moisture cannot get inside the combustion chamber.
7. Clean the engine and store it in a dry place.

CHAPTER 4 TROUBLESHOOTING

4-1 Troubleshooting procedures

	Causes of malfunction	Remedy
Diesel cannot be started	Not enough fuel	Add enough fuel
	The switch of fuel is not at "OPEN" position	Turn the switch of fuel to "OPEN" position.
	High-pressure pump and nozzle do not inject fuel or the injected amount is less.	Disassemble the nozzle and adjust it at test table.
	Speed control lever is not at "RUN" position	Turn speed control lever to "RUN" position
	Check level of lubrication oil	The standard oil amount of lubricating oil should be between high graduation "H" and low graduation "L".
	It is not quick and powerful to pull reactive starter.	Start diesel engine in accordance with the requirements of "start operation procedures"
	Nozzle exists dirt.	Clean the nozzle
	Accumulator has not electricity.	Charge the accumulator or exchange it.
Generator cannot generate electricity	Master switch (NFB) is not be switched on	Turn master switch handle to "ON" position
	Carbon brush of generator was worn. The contact is bad.	Exchange the carbon brush
	The contact of socket is bad.	Adjust the contact feet of socket.
	The rated revolution of engine cannot be reached.	Make it reach to the rated revolution in accordance with the requirements.
	The potentiometer of current regulation for electric welding is damaged.	Exchange it.

If you are still having trouble, please contact with your nearest dealer or with our company directly if necessary.

4-2 Questions and doubts

If you do not understand anything or have any questions, please feel free to contact your local dealer or with our company directly. Below is a list of some information you should have ready before contacting your local dealer or us.

1. Model of diesel engine generator and engine model number.
2. State of residency
3. Number of hours of operating equipment along with the problem that occurred.
4. A detailed condition and time when the problem occurred, in other words, climate and atmosphere

CHAPTER 5 GENERATOR PARTS DIAGRAMS AND LISTINGS

Figure 5-1. Overall view of engine generator assembly

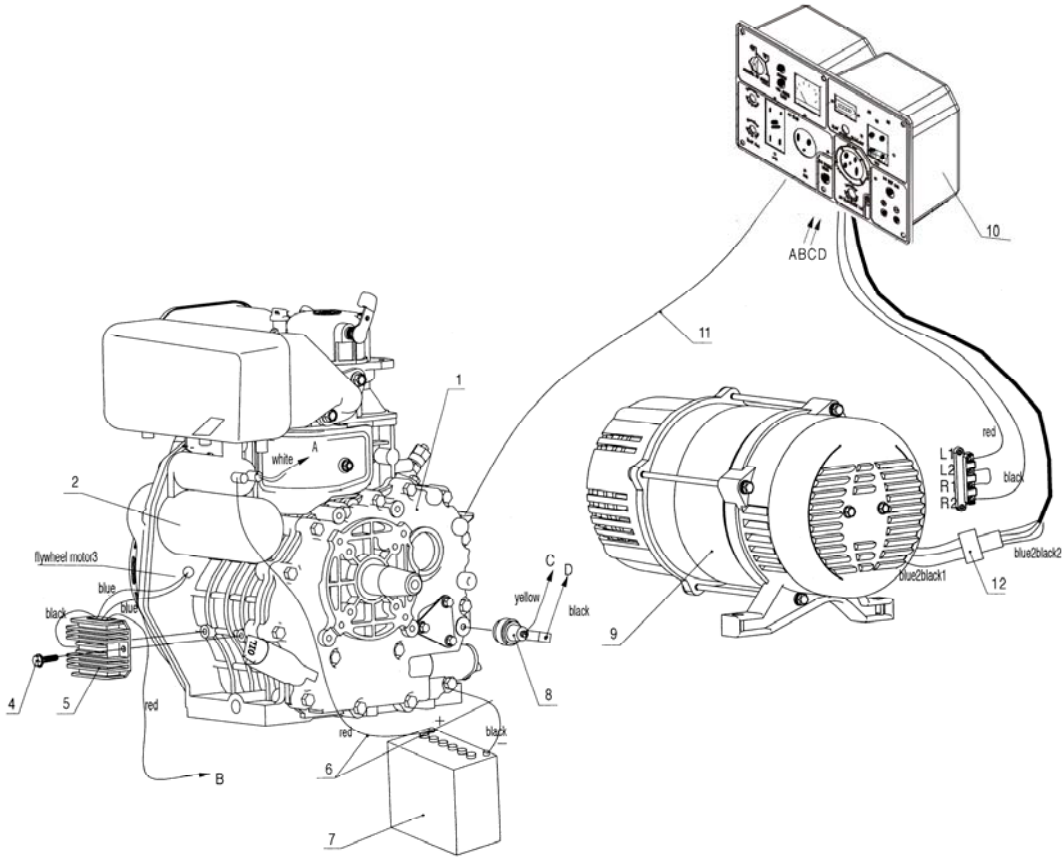


Table 5-1. Please refer to figure 5-1 for illustration

Number	Part Description	Quantity	Part Code
1	CF series diesel engine	1	AGE001
2	Starter Motor	1	AGE002
3	Flywheel generator	1	AGE003
4	Fixed bolt for manostat	1	AGE004
5	Manostat	1	AGE005
6	Wire of accumulator (red)	1	AGF060
	Wire of accumulator (black)	1	AGF060
7	Accumulator	1	AGF017
8	Low oil shut down	1	AGE009
9	Alternator	1	AGE010
10	Output panel assembly	1	AGE011
11	Pulling wire for throttle	1	AGE012
12	Connector (male)	1	AGE013
	Connector (female)	1	AGE014

Figure 5-2. Exploded view of frame assembly

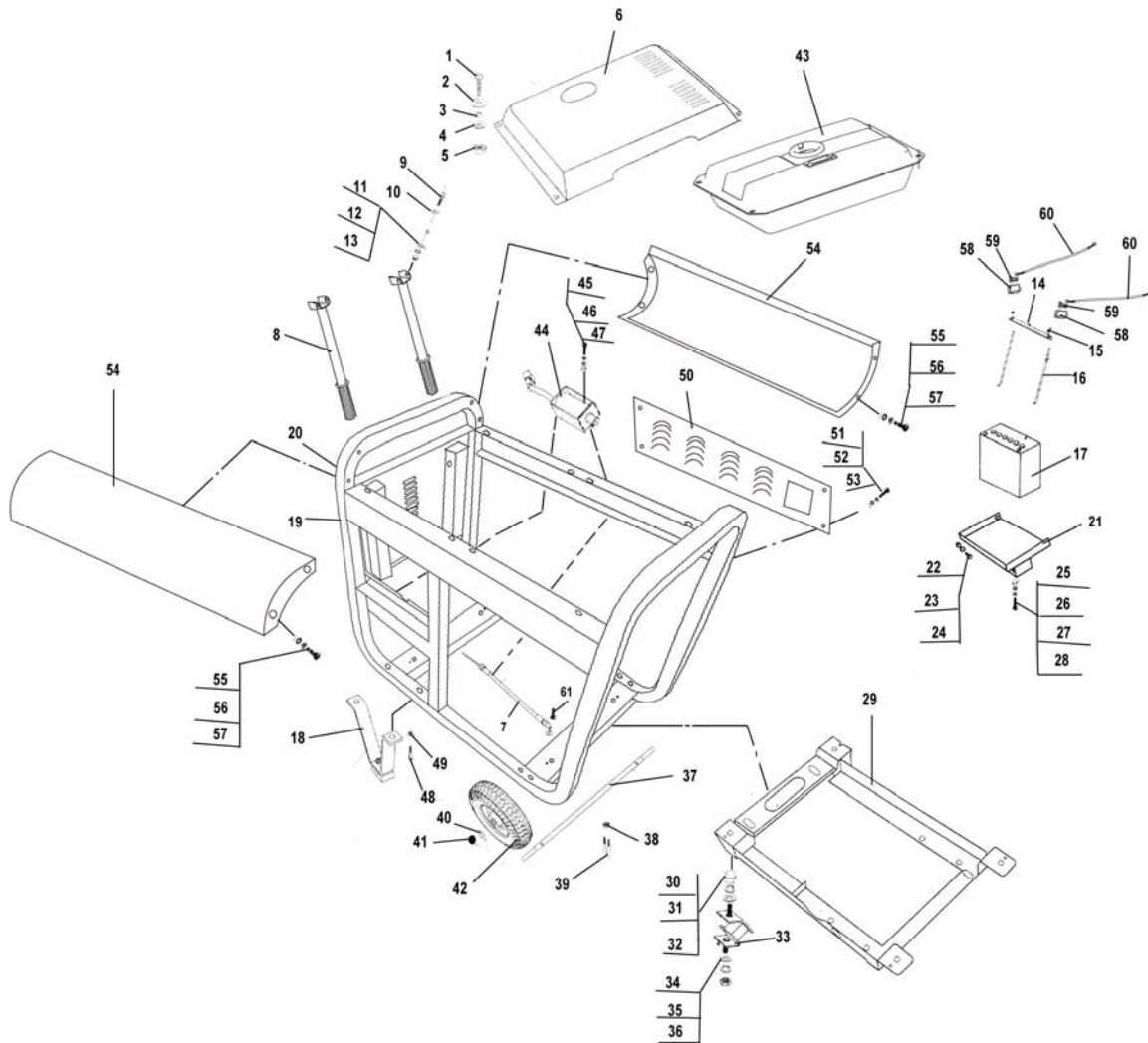


Table 5-2. Please refer to figure 5-2.

Number	Part Description	Quantity	Part Code
1	Bolt M6 x 25(GB/T819.1-2000)	4	AGT0006
2	Larger plate washer ϕ 6	4	AGT0007
3	Big fuel tank lining	4	AGT0008
4	Shock absorption gasket for big fuel tank	4	AGT0009
5	Nut M6	4	AGT0011
6	Decorative cover	4	AGF0006
7	Throttle cable190×270	1	AGF0007
8	Handrail	2	AGF0008
9	Pin 8×50	2	AGF0009
10	Split pin 3×32	2	AGF0010
11	Flat washer ϕ 8(GB/T97.1-1985)	2	AGF0011
12	Flat washer ϕ 8(GB/T97.1-1985)	2	AGF0011
13	Nut M8 (GB/T6174)	2	AGF0013
14	Pressing plate of accumulator	1	AGF0014

GENERATOR PARTS DIAGRAMS AND LISTINGS

Number	Part Description	Quantity	Part Code
15	Nut M6	2	AGF0015
16	Hook shape bolt of accumulator	2	AGF0016
17	Accumulator	1	AGF0017
18	Angle bracket	2	AGF0018
19	Generator frame 35×35	1	AGF0019
20	Rubber insulator	2	AGF0020
21	Battery tray	1	AGF0021
22	Nut M6	1	AGF0022
23	Flat washer ϕ 6	1	AGF0023
24	Bolt M6×45(GB/T819.1-2000)	1	AGF0024
25	Nut M10(GB/T6174)	1	AGF0025
26	Flat washer ϕ 10(GB/T97.1-1985)	1	AGF0026
27	Spring washer ϕ 10(GB/T93-87)	1	AGF0027
28	Shock absorption mat	1	AGF0028
29	Machine bracket	1	AGF0029
30	Nut M10(GB/T6174)	1	AGF0025
31	Flat washer ϕ 10(GB/T97.1-1985)	4	AGF0026
32	Spring washer ϕ 10(GB/T93-87)	4	AGF0027
33	Rubber mount	4	AGF0033
34	Spring washer ϕ 10(GB/T93-87)	4	AGF0025
35	Flat washer ϕ 10(GB/T97.1-1985)	4	AGF0026
36	Nut M10(GB/T6174)	4	AGF0027
37	Axle	1	AGF0037
38	Nut M6(GB/T6174)	4	AGF0038
39	U-bolt	2	AGF0039
40	Flat washer ϕ 16(GB/T97.1-1985)	2	AGF0040
41	Split pin 3×32	2	AGF0041
42	Solid wheels	2	AGF0042
43	Fuel tank assembly	1	AGF0043
44	Solenoid	1	AGF0044
45	Bolt M3×6(GB/T819.1-2000)	4	AGF0045
46	Flat washer ϕ 3(GB/T97.1-1985)	4	AGF0046
47	Spring washer ϕ 3(GB/T93-87)	4	AGF0047
48	Bolt M8×40(GB/T819.1-2000)	2	AGF0048
49	Nut M8(GB/T6174)	2	AGF0049
50	Side cover	1	AGF0050
51	Bolt M5×12(GB/T819.1-2000)	4	AGF0051
52	Flat washer ϕ 5(GB/T97.1-1985)	4	AGF0052
53	Spring washer ϕ 5(GB/T93-87)	4	AGF0053
54	Protection cover	2	AGF0054
55	Bolt M6×12(GB/T819.1-2000)	8	AGF0055
56	Flat washer ϕ 6(GB/T97.1-1985)	8	AGF0056
57	Spring washer ϕ 6(GB/T93-87)	8	AGF0057
58	Clamp cover	1	AGF0058
59	Clamp	1	AGF0059
60	Battery cable	1	AGF0060
61	Bolt M4×8(GB/T819.1-2000)	2	AGF0061

Figure 5-3. Electric panel parts drawing

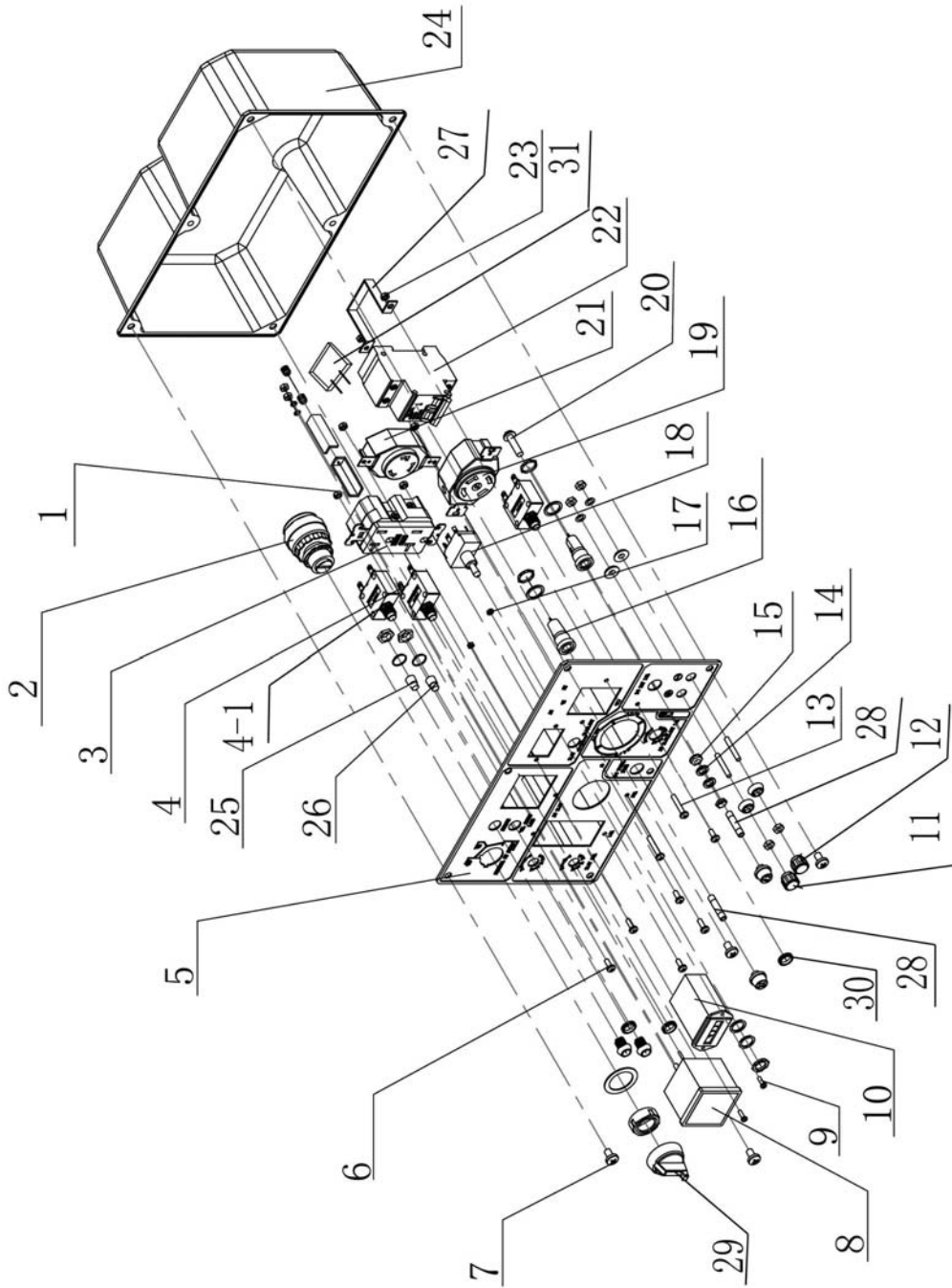


Table 5-3. Please refer to Figure 5-3

Number	Part Description	Quantity	Part Code
1	Nut M4(GB/T6170-2000)	6	AGP0001
2	Electric start switch	1	AGP0002
3	Square American type-socket	1	AGP0003
4	Overload protector(20A)	1	AGP0004
4-1	Overload protector(30A)	1	AGP0004-1
5	B-type aluminum panel	1	AGP0005
6	Bolt M4×12(GB/T819.1-2000)	6	AGP0006
7	Bolt M6×10 (GB/T819.1-2000)	4	AGP0007
8	Voltmeter	1	AGP0008
9	Bolt M3×16(GB823-88)	2	AGP0009
10	Digital Timing	1	AGP0010
11	Red wire holder(107)	1	AGP0011
12	Black wire holder(107)	1	AGP0012
13	Bolt M4×25(GB/T818)	2	AGP0013
14	plate Washer4	9	AGP0014
15	Nut M6 (GB/T6170)	2	AGP0015
16	DC fuse assembly	2	AGP0016
17	Nut M3 (GB/T6170-2000)	2	AGP0017
18	Transfer switch302/25A	1	AGP0018
19	American type 4-hole unit loose socket	1	AGP0019
20	Bolt M6×26 (GB/T5787-1996)	1	AGP0020
21	3-hole unit loose socket	1	AGP0021
22	Breaker(DZ216-63/2P/18.5A)	1	AGP0022
23	Nut M4 (GB/T6170-2000)	9	AGP0023
24	Electric box	1	AGP0024
25	Indicating lamp of power supply(12V)	1	AGP0025
26	Low-oil protection indicating lamp(12V)	1	AGP0026
27	2P support of breaker	1	AGP0027
28	Fuse 10A	2	AGP0028
29	Key	1	AGP0029
30	bolt to the grounded	1sets	AGP0030
31	rectifier(12V)	1	AGP0031

Figure 5-4. Generator head assembly

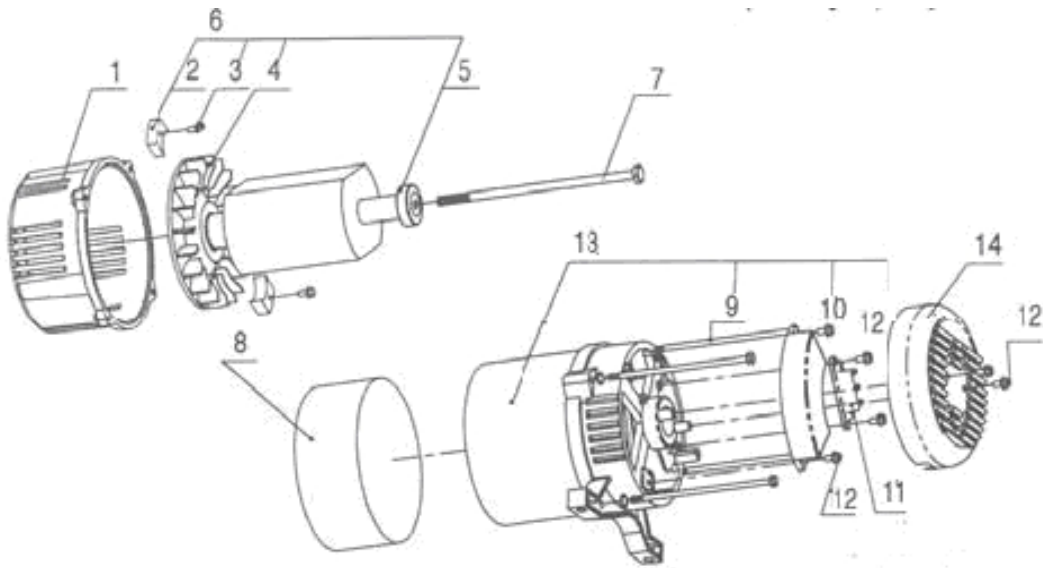


Table 5-4. Please refer to figure 5-4

Number	Part Description	Quantity	Part Code
1	Front end cover	1	AGA0001
2	Diode 3510	1	AGA0002
3	Bolt M5 x 16	2	AGA0003
4	Fan Blade	1	AGA0004
5	Bearing 6204(GB/T 307)	1	AGA0005
6	Rotor Unit	1	AGA0006
7	Center bolt M10 x 216 (GB/T5789-1986)	1	AGA0007
8	Guard board of motor	1	AGA0008
9	Installing bolt M6×180(GB/T5789-1986)	4	AGA0009
10	Capacitance 30mf	1	AGA0010
11	Wiring seat	1	AGA0011
12	Heterotypic bolt M5×14	6	AGA0012
13	Stator unit	1	AGA0013
14	Dust cover	1	AGA0014

Figure 5-5. Fuel system components

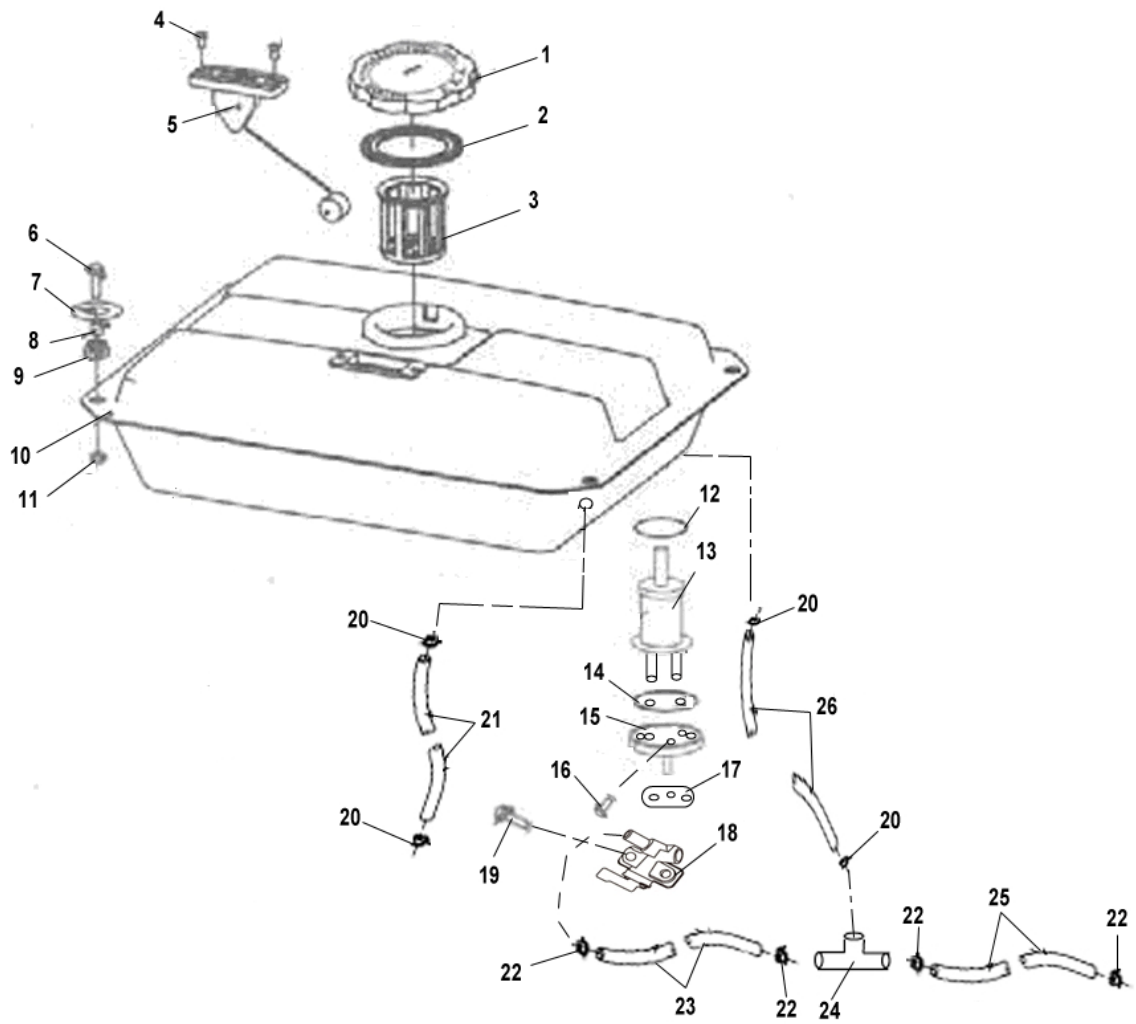
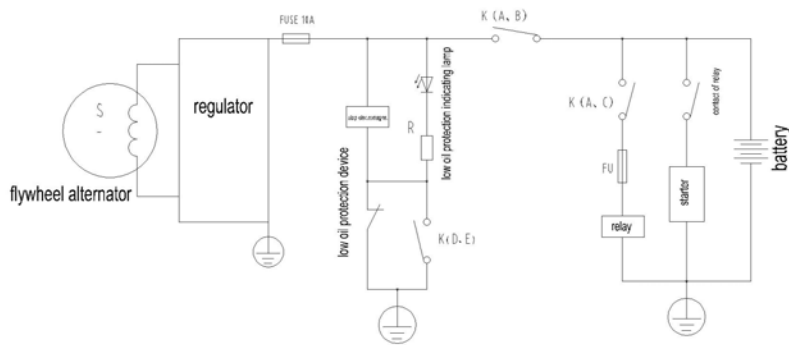
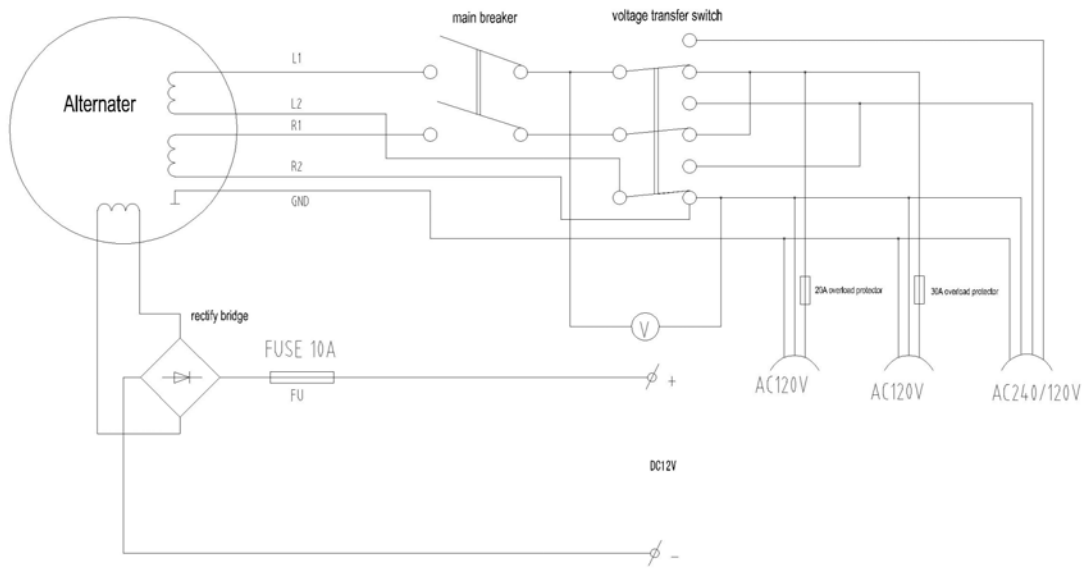


Table 5-5. Please refer to figure 5-5.

Number	Part Description	Quantity	Part Code
1	Fuel tank cover	1	AGT0001
2	Seal ring of fuel tank cover	1	AGT0002
3	Filtering cup	1	AGT0003
4	Screw M5×8(GB823-88)	2	AGT0004
5	Buoy for oil level indication with gasket	1	AGT0005
6	Bolt M6×25(GB/T819.1-2000)	4	AGT0006
7	Larger plate washer6	4	AGT0007
8	Big fuel tank lining	4	AGT0008
9	Shock absorption gasket for big fuel tank	4	AGT0009
10	Fuel tank	1	AGT0010
11	Nut M6	4	AGT0011
12	Gasket for pressing plate of diesel oil filtering	1	AGT0012
13	Filtering core of big fuel tank	1	AGT0013
14	Gasket of Filtering core of big fuel tank	1	AGT0014
15	Pressing plate of diesel oil filtering	1	AGT0015
16	Cross screw M5×8 (GB823-88)	3	AGT0016
17	Gasket of fuel drain cock	1	AGT0017
18	Fuel drain cock(clockwise)	1	AGT0018
19	Nut M6	2	AGT0019
20	Clip9	4	AGT0020
21	Fuel leak-off pipe	1	AGT0021
22	Clip13	4	AGT0022
23	Fuel inlet pipe	1	AGT0023
24	Pipe tee	1	AGT0024
25	Fuel inlet pipe of pipe tee	1	AGT0025
26	Fuel leak-off pipe of pipe tee	1	AGT0026

CHAPTER 6 CIRCUIT DIAGRAM



switch list

contact switch	A	B	C	D	E
0 stop				○—○	
I run	○—○				
II start	○—○	○—○			

main breaker collocate list

model	main breaker
CE06500XE	20A