

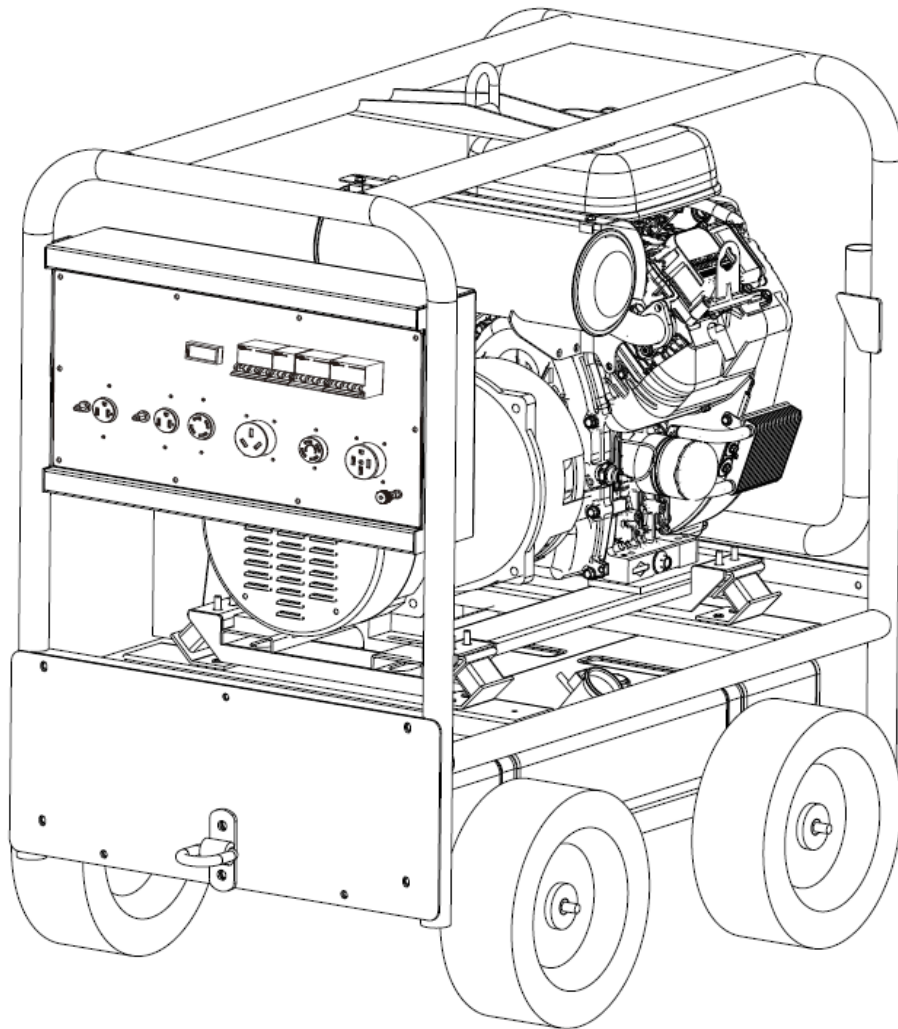


**DiamaPro<sup>®</sup>**  
SYSTEMS

# OWNER'S MANUAL

**DP-Gen-18Kw**

**GENERATOR**



**INSTRUCTION MANUAL**  
READ BEFORE OPERATING

# INTRODUCTION

Thank you for purchasing a DIAMAPRO® SYSTEMS product.

This manual provides information and procedures to safely operate and maintain the DP-Gen-18Kw Generator. For your own safety and protection from injury, carefully read, understand, and observe the safety instructions described in this manual. Keep this manual or a copy of it with the machine. If you lose this manual or need an additional copy, please contact DiamoPro® Systems. This machine is designed and built with user safety in mind; however, it can present hazards if improperly operated and serviced.

Please follow the operating instructions carefully. If there are any questions regarding operating or servicing of this machine, please contact DiamoPro® Systems.

**DISCLAIMER:** DiamoPro and its affiliates take no responsibility for any damage, injury or death resulting from the incorrect or unsafe use of this product. Use of this product should be undertaken by competent persons only. It is the operator's responsibility to ensure that the following safety procedures are followed. If you are unsure, do not operate this product.

# RECYCLING INFORMATION



All packaging, used oil, and batteries should be recycled according to applicable government regulations

# OPERATOR SAFETY

Read the engine operator safety section and this operator's manual safety instruction section carefully.

# SAFETY MESSAGES



CAUTION - indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.



NOTICE - indicates that failure to follow operation instructions can result in personal injury or damage to equipment.



WARNING - If these instructions are followed, the DiamoPro Systems' generator is safe and reliable. Be sure to read and understand the manual before operating machine to avoid or reduce the risk of serious injury or death.

# SAFETY INSTRUCTIONS

## NOTICE Exhaust Fumes Could Be Fatal

- Running engine gives off Carbon Monoxide, an odorless, colorless, poisonous gas.
- Breathing Carbon Monoxide can cause nausea, fainting or death.
- Ensure there is adequate ventilation when using the generator.
- Position the generator so that the exhaust is pointing away from people or animals.
- Never use the generator indoors or in an enclosed area.

## NOTICE Flammable and Explosive Fuel

- Fuel and its vapors are extremely flammable and explosive
- Fire or explosion can cause severe burns or death
- Always switch the engine OFF when refueling.
- Always refuel away from any heat source.
- Always refuel in a well-ventilated area.
- Always keep the machine upright when operating or moving to avoid fuel leaks.
- Never overfill fill the tank, fill to the level specified.
- Never smoke while refueling.
- Never start the engine if there is a fuel spill. Any spillage must be wiped clean and the generator allowed to dry before attempting to start the engine.

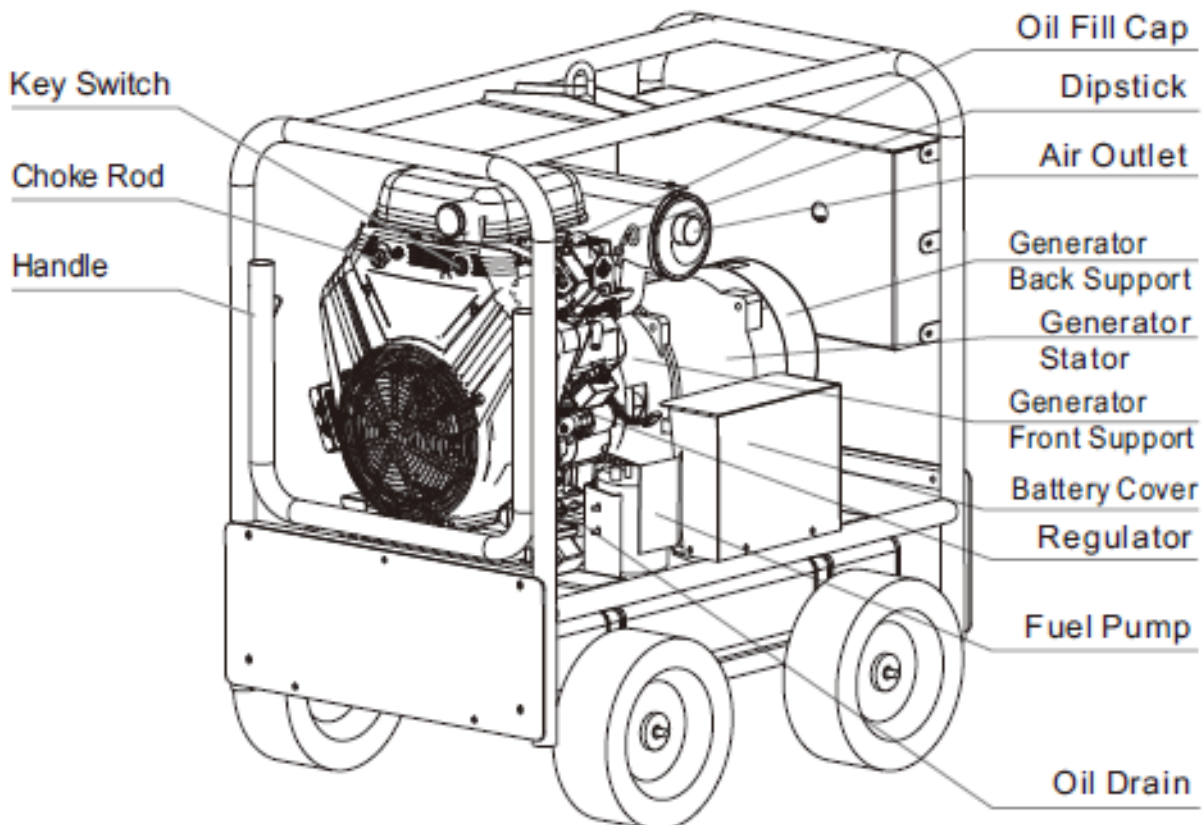
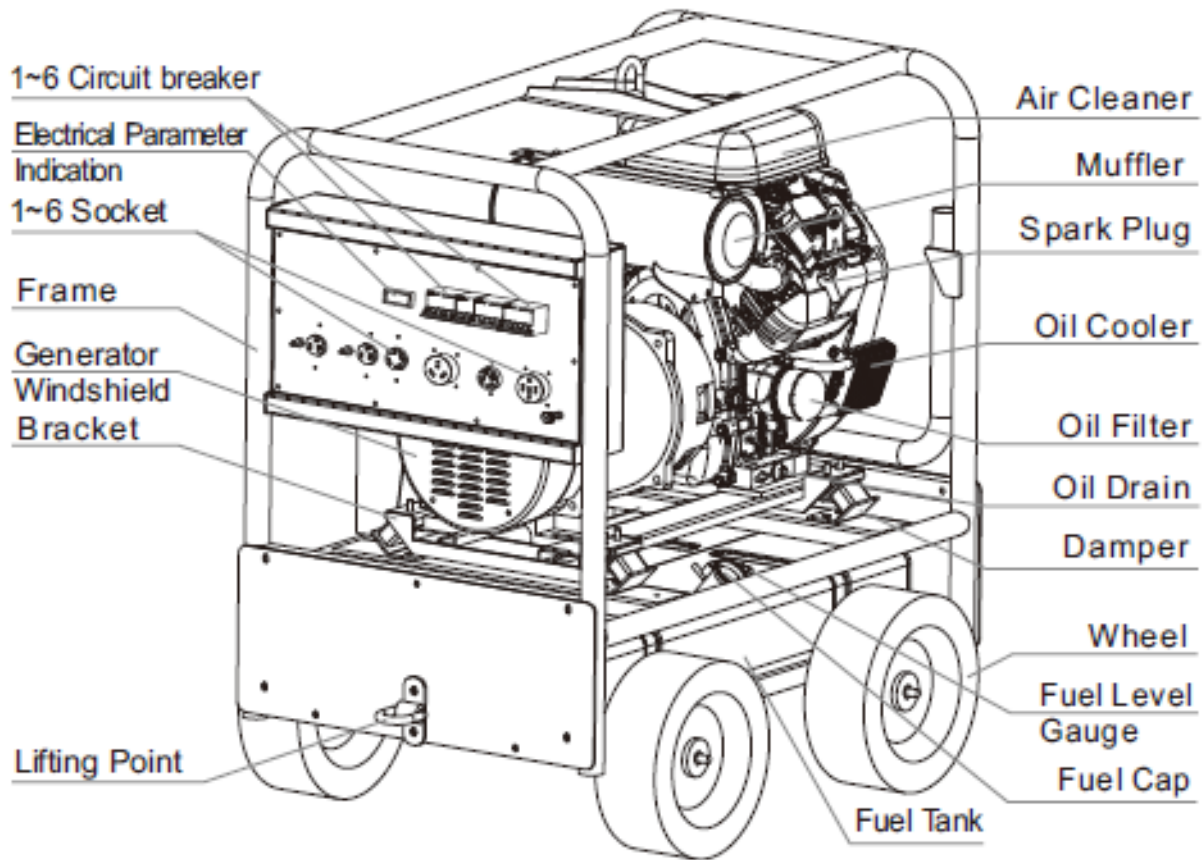
## NOTICE Hot Surfaces

- Contact with engine's exhaust components could result in serious burns.
- During operation, touch only the control surfaces of generator.
- Keep children away from the generator at all times.
- During operation, do not cover dust-proof covers
- Keep flammable objects away from generator during operation
- Keep the generator at least 3 feet away from any surrounding building or structure to avoid burning
- Generator's muffler will be very hot after operation - Do not touch. Let cool before handling and storing to avoid fire or burns.

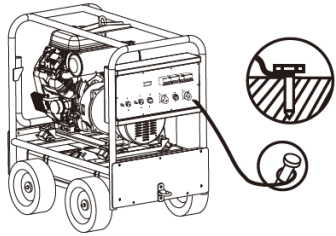
## NOTICE Risk of Electric Shock

- Test the GFCI's before use.
- Cover the generator when not in use and store away from damp or wet conditions.
- Never use the generator outdoors when it is raining or snowing or in wet or damp conditions.
- Never use water or any other liquids to clean the unit while it is running.
- Do not touch the machine with wet hands

# STRUCTURE OF THE GENERATOR



# PREPARATION BEFORE RUNNING



**WARNING**

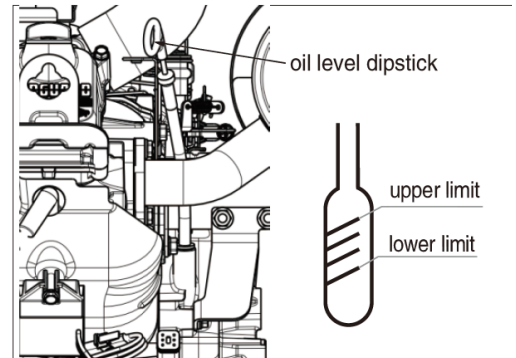
Machine should be grounded to protect the user from electric shock or electrocution.

**NOTICE**

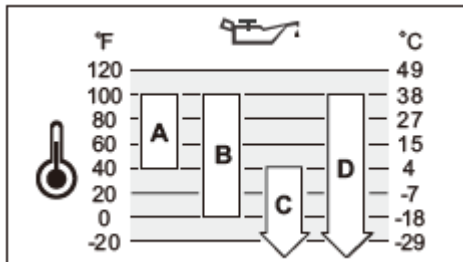
Machine Oil level Check

■ Check the engine oil level with the engine stopped and in a level position. Running the generator without proper oil level could seriously damage the machine

1. Unscrew fuel cap. Remove oil dipstick, and wipe it clean
2. Fully insert the oil level dipstick, then remove to check oil level
3. If oil level is too low, fill with the recommended oil to the upper limit mark on the oil level dipstick.



We recommend using oils classified as SF, SJ or higher for best performance. Other high quality detergent oils are acceptable. Do not use special additives. Outdoor temperature determines which viscosity of oil the engine should use. Use charts to select the best viscosity in different outdoor temperature ranges.



<b>A</b>	<b>SAE 30</b> - Below 40 °F (4 °C) the use of SAE 30 will result in hard starting.
<b>B</b>	<b>10W-30</b> - Above 80 °F (27 °C) the use of 10W-30 may cause increased oil consumption. Check oil level more frequently.
<b>C</b>	<b>5W-30</b>
<b>D</b>	Synthetic <b>5W-30</b>

**NOTICE**

Using two stroke engine oil will shorten the life of the engine

## Fuel Recommendations

Fuel must meet these requirements:

- Clean, fresh, unleaded gasoline.
- A minimum of 87 octane/87 AKI (91 RON).
- Gasoline with up to 10% ethanol (gasohol) is acceptable.

**NOTICE**

Do not use unapproved gasolines, such as E15 and E85. Do not mix oil in gasoline or modify the engine to run on alternate fuels. Use of unapproved fuels will damage the engine components, which will not be covered under warranty.

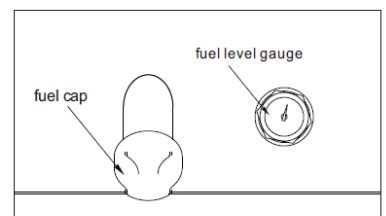
To protect the fuel system from gum formation, mix a fuel stabilizer into the fuel. See Storage. All fuel is not the same. If starting or performance problems occur, change fuel providers or change brands. This engine is certified to operate on gasoline. The emissions control system for this engine is EM (Engine Modifications).

## Add Fuel

**WARNING**

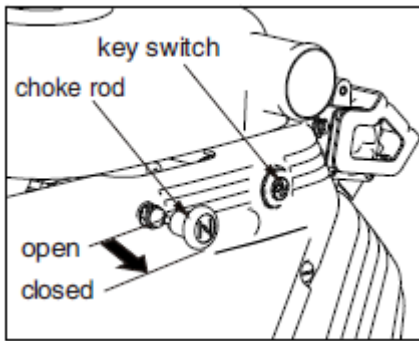
Fuel and its vapors are extremely flammable and explosive. Fire or explosion can cause severe burns or death. When Adding Fuel

- Turn engine off and let engine cool at least 2 minutes before removing the fuel cap.
  - Fill fuel tank outdoors or in well-ventilated area.
  - Do not overfill fuel tank. To allow for expansion of the fuel, do not fill above the bottom of the fuel tank neck.
  - Keep fuel away from sparks, open flames, pilot lights, heat, and other ignition sources.
  - Check fuel lines, tank, cap, and fittings frequently for cracks or leaks. Replace if necessary.
  - If fuel spills, wait until it evaporates before starting engine.
1. Directly observe the fuel level gauge;
  2. If the amount of fuel is low, refueling is needed;
  3. Clean the fuel cap area of dirt and debris. Remove the fuel cap.
  4. Fill the fuel tank with fuel. To allow for expansion of the fuel, do not fill above the bottom of the fuel tank neck.
  5. Reinstall the fuel cap.

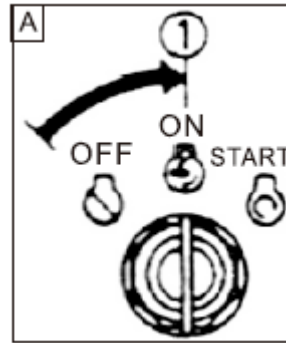




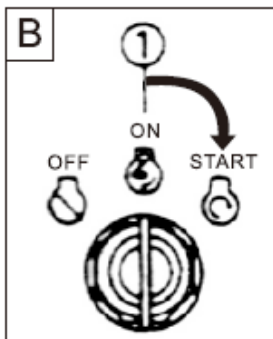
# GENERATOR START-UP AND OPERATION



1. Turn the choke rod to “closed” position.



2. Turn the engine key switch to “on” position.



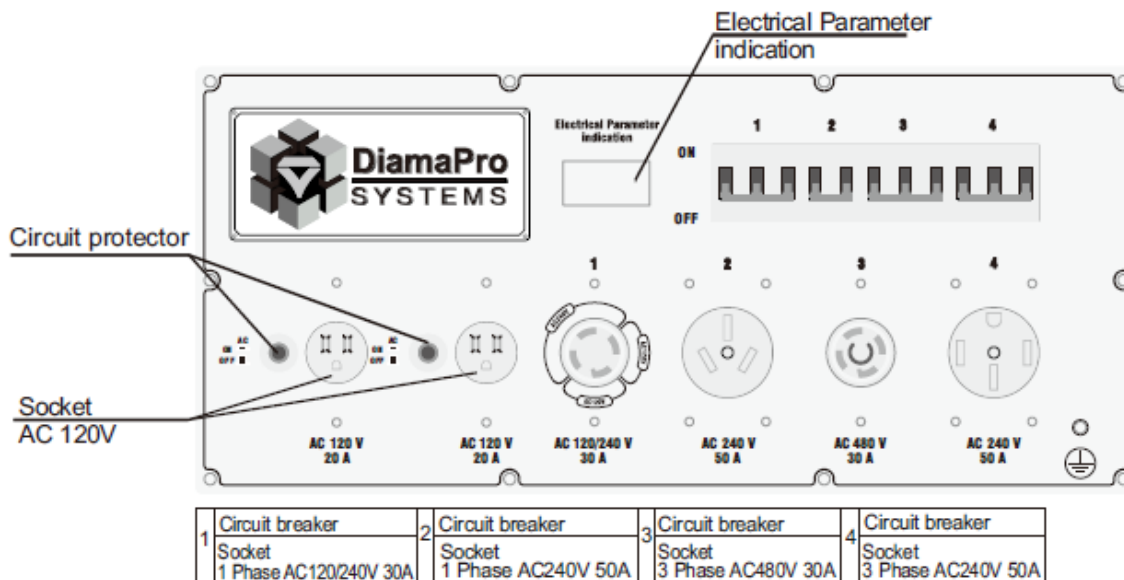
3. Turn the key switch clockwise until the engine is started.

## ⚠ NOTICE

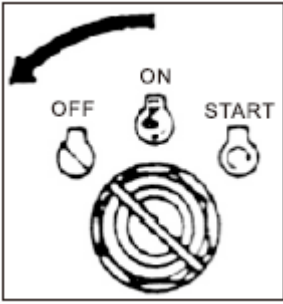
Since the engine requires high current in start-up stage, it can only work for a short time which should not be over 10 seconds each time . The interval between starting should not be lower than 2 minutes when continual starting is needed . Usually it should not be more than 10 continuous times in case it should damage the machine and the battery. The switch should be on “ON” (recharging) after it is started.

3. Slowly turn the choke rod to position “OPEN.”

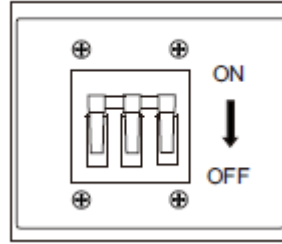
4. Connect the transmission line of generator set, connect the electrical equipment and put the power switch (circuit breaker protector) in the “on” position.



# STOP GENERATOR



**In an emergency situation:**  
Turn the ignition key to the "off" position.



**In normal circumstances:**  
1. Disconnect all appliances connected to the generator  
2. Turn the ignition key to the "off" position.

# ENGINE MAINTENANCE

## NOTICE

Refer to the engine operator's manual for air filters, spark plugs, etc.

- Turn off engine and let cool before performing any maintenance.
- Maintenance and repairs should be performed by an authorized DiamoPro Systems' dealer or DiamoPro Systems' service technician.

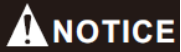
### Maintenance Schedule:

Whichever comes first should be done		Each time before running	1st month or 20 hours	Each quarter or 50 hours	6th month or 100 hours	Every year or 300 hours
Lubricant in engine	check level	0				
	change		0		0	
air filter	check					0
	clean	0		0(1)		
Dust collector	clean				0	
Spark plug	check and clean				0	
Spark eliminator (optional)	clean				0	
Oil tank and filter	clean					0(2)
Air mouth	check and adjust					0(2)
Gasoline supply lines	check	Once every two years (change if necessary)(2)				

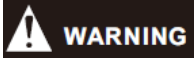
## NOTICE

- (1). The interval of maintenance shall be shortened if the machine is used in dusty environment.
- (2). These items shall be done by those authorized companies by us except that the user has the appropriate tools and capability.

# STORAGE AND TRANSPORT



Make sure the engine key switch is off during the transportation of the generator. Pay attention to the level of fuel oil, do not overflow. Spilled fuel could catch fire.



Contact with hot exhaust engine can lead to serious burns or fire. Only transport or store when generator is cooled completely.



When Storing Fuel or Machine with Fuel in Tank  
Store away from furnaces, stoves, water heaters or other appliances that have pilot lights or other ignition sources that can ignite fuel vapors.

## Fuel System

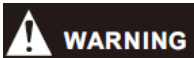
Fuel can become stale when stored over 30 days. Stale fuel causes acid and gum deposits to form in the fuel system or on essential carburetor parts.

There is no need to drain gasoline from the engine if a fuel stabilizer is added according to instructions. Run the engine for two (2) minutes to circulate the stabilizer throughout the fuel system before storage.

If gasoline in the engine has not been treated with a fuel stabilizer, it must be drained into an approved container. Run the engine until it stops from lack of fuel. The use of a fuel stabilizer in the storage container is recommended to maintain freshness.

## Engine Oil

Change engine oil while the engine is still warm.  
See the engine operator's manual for Change Engine Oil section.



Gasoline burns easily and can explode under certain conditions. The storage site must be well ventilated and the engine shut down. Do not smoke or spark during operation.

# PROPOSITION 65 WARNINGS



**THIS PRODUCT CONTAINS LEAD, A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.**



**THIS PRODUCT CONTAINS ONE OR MORE CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.**



**EXHAUST GASES FROM THIS PRODUCT CONTAIN CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.**

# TROUBLESHOOTING

## Engine fault

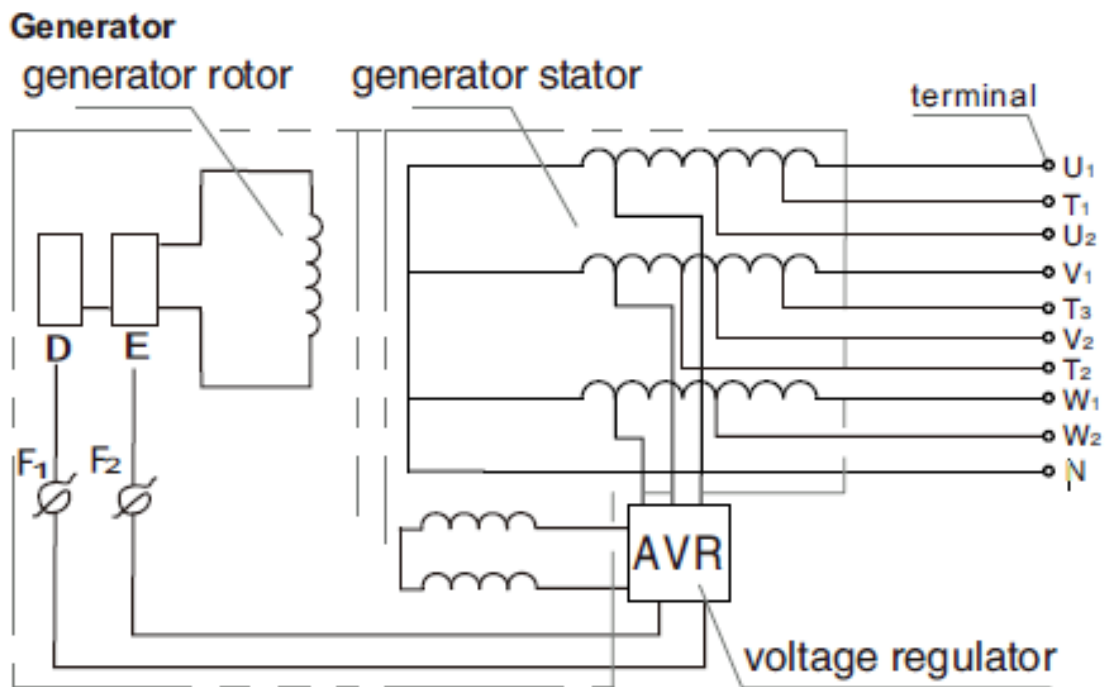
Fault phenomena	possible cause	Elimination method
Starting difficult Not the ignition	Engine key switch off	Open the engine switch
	Engine oil level is too low	Add oil
	Spark plug fault	Replacement spark plug
	The oil protector fault	And the dealer or factory contact
	Ignition fault	And the dealer or factory contact
Starting difficult No fuel	The fuel lack	Add fuel
	The fuel cap air vent jam	Opening jam
Starting difficult Cylinder pressure low	Spark plug a flat	Tight spark plug
	The combination of cylinder head and body in a flat surface	Wipe plane pack good gaskets, tighten bolts
	Piston ring or cylinder wear	Replace piston ring or body
	Piston ring broken or be carbon deposition jammed	Replace piston ring or cleaning the carbon deposition
	Valve card death or valve clearance is wrong	Repair valve clearance adjustment
Engine no idling	The carburetor improper adjustment	Adjust the carburetor
	The oil , fuel lines congestion	Cleaning oil ,fuel lines
Engine idling instability	Carburetor spring is too loose Air filter jams The spark plug gap is too big	Adjusting spring Clean air filter Adjustment clearance
Automatic engine stop	Fuel running out or Oil shortage Oil road or carburetor jam Broken fire Other mechanical bite dead failure	Refuel Cleaning oil road ,carburetor Check the circuit Figure it out for the repair or replacement after

## Generator fault

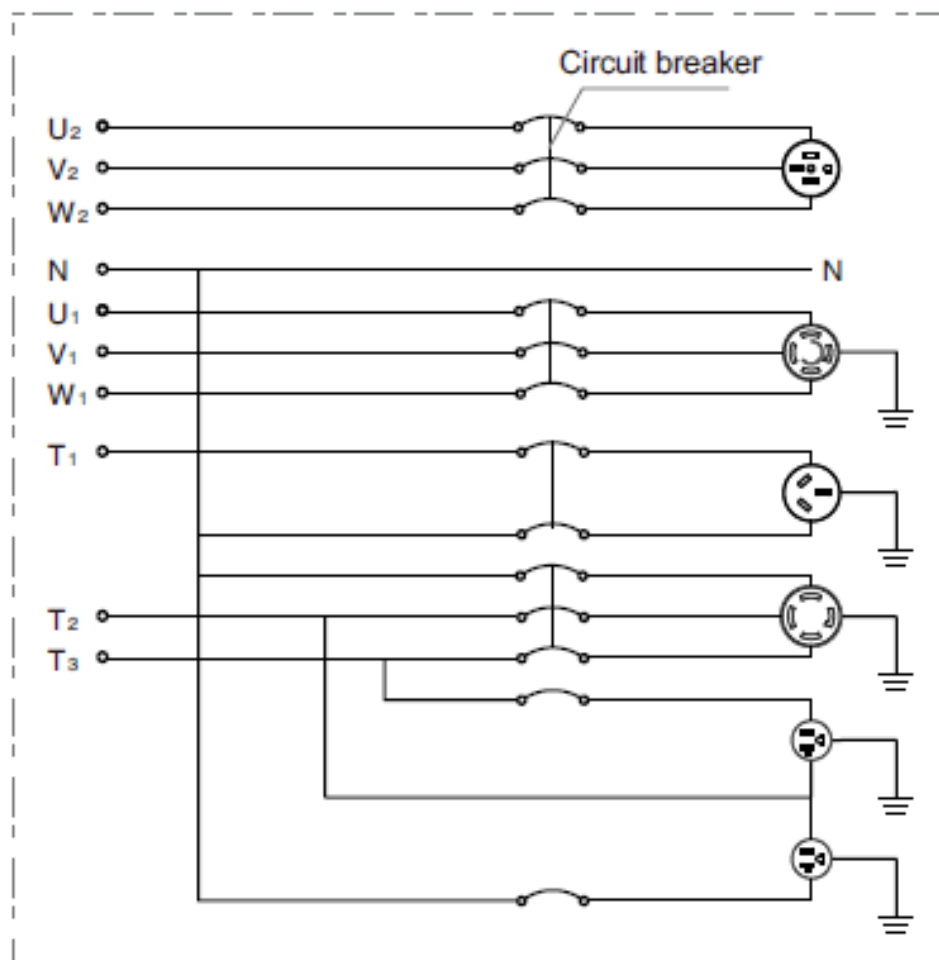
Fault phenomena	possible cause	Elimination method
The voltmeter instruction, communication socket in no current	AC circuit breaker not through	Will circuit breaker complex located in the "ON" position
Exchange of current meter, electrical outlet without instructions	Voltmeter bad	Replacement voltmeter
No instructions, communication socket voltmeter no current	1.Loose wires or fall off 2.Generator capacitance breakdown 3.Generator stator and rotor break or burned to the ground 4.Generator is loss of excitation	Check the loose parts and connected Replacement capacitor Replacement Improve the generator speed or magnetization
Engine speed normal, generator voltage is low	1.The part of generator capacitance breakdown 2.Generator rotor bridge group breakdown	Replacement capacitance Replacement bridge group



# ELECTRICAL PRINCIPLE



## Transmission Line



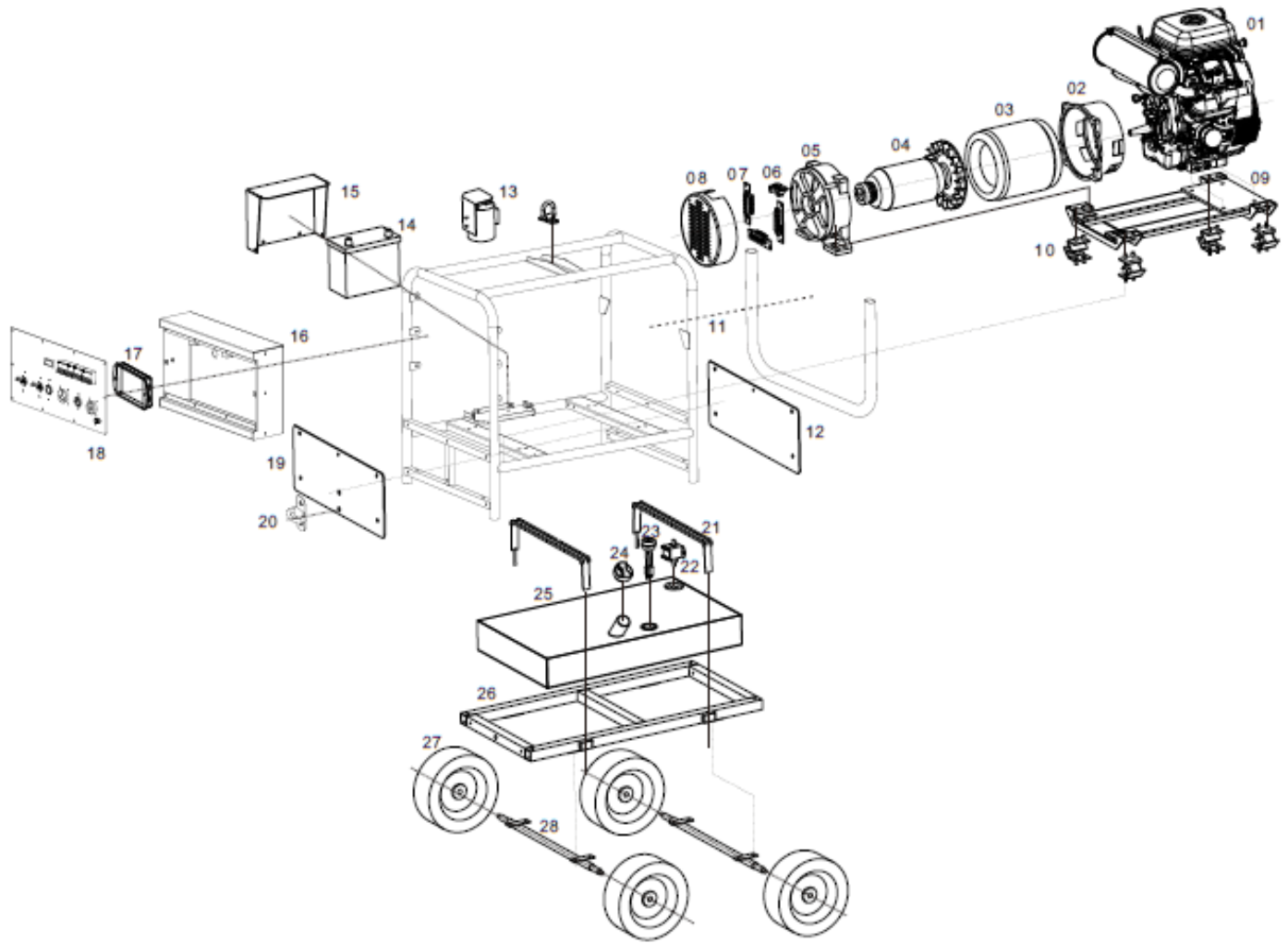
# TECHNICAL SPECIFICATIONS

	MODEL	Gen-18Kw			
ENGINE	Pattern	Double cylinder, v-shaped, four-stroke, forced air cooling, overhead valve (OHV)			
	Displacement (cc)	993			
	Max power (hp/rpm)	35/3600			
	Ignition system	Non-contact electronic ignition			
	Start-up system	Electrical start			
	Fuel tank volume (L)	50			
	Workload (%)	100	75		
	Sustained working time (hr)	6	8		
	Machine oil volume (L)	2.5			
	Noise (7m way) (db)	74			
GENERATOR	Total power (kVA)	22			
	Rated frequency (Hz)	60			
	Rated voltage (V)	480 three phase	240 three phase	240 single phase	120/240 single phase
	Rated current (A)	30	50	50	30
COMPLETE MACHINE	Total length (in)	40.6			
	Total width (in)	30.3			
	Total height (in)	44.1			
	G.W./N.W. (lbs)	*			
STANDARD PARTS	Big-size air filter	*			
	Big-size gasoline tank	*			
	Big-size muffler	*			
	Gasoline meter	*			
	Voltage meter	*			
	Auto voltage adjustor	*			
	Alarming System for machine oil level in generator	*			
	NO-fuse circuit breaker	*			
	Circuit protector	*			
	Battery cover	*			
4-wheel wheelset	* (4)				

1. \* Means with ; - Means without

2. **NOTICE:** The sum of the power of each load shall not exceed the total power

# PARTS LIST AND DIAGRAM



No.	Name	Qty.	No.	Name	Qty.
1	Engine	1	15	Battery Cover	1
2	Generator Front Support	1	16	Control box	1
3	Generator Stator	1	17	Voltage Regulator	1
4	Generator Rotor	1	18	Control Panel	1
5	Generator Back Support	1	19	Decorative Plates-2	1
6	Brush	1	20	Lifting Point	1
7	Terminal Blocks	3	21	Fuel Tank Straps	1
8	Generator Windshield	1	22	Fuel Pump	1
9	Bracket	1	23	Fuel Level Gauge	1
10	Damper	4	24	Fuel Cap	1
11	Frame	1	25	Fuel Tank	1
12	Decorative Plates-1	1	26	Fuel Tank Bracket	1
13	Carbon Canister	1	27	Wheel	4
14	Battery	1	28	Axle	2



**470-977-2323**

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