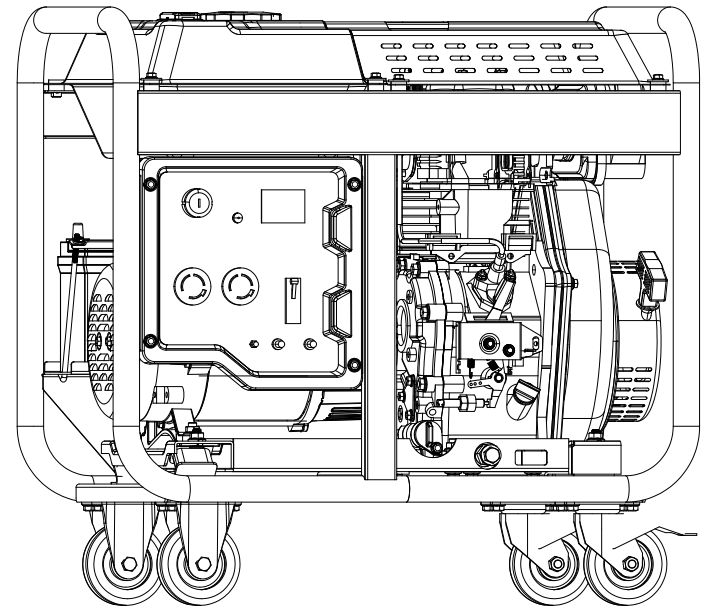


# **DIESEL GENERATOR SET**



# Preface

Many thanks for choosing our product!

Our Genset is featured with the following characteristics:

taking self developed super light, air-cooling, 4-stroke diesel engine as power source, equipped anti-knock manual start and electronic start methods, super large quantity fuel tank, automatic voltage regulation AVR device, NFB circuit protector, alternate current, direct current dual output device, oil pressure low warning, automatic stop device which make it more convenient, reliable.

The series gensets can be widely used as UPS emergent power source in bank, securities, design department. It can be also used as portable source for field, outdoor work, construction, field army, power source of ship, emergent and back power source of raise animals, fishing, garden, hotel, shop, commercial fitment, office, home and dancing hall.

This manual describes how to operate and maintain the genset. Before operating Genset, please read this manual carefully to ensure correct operation. Only operating under the instruction in this manual, the Genset keeps at best status and extend the work life. If you have any suggestions and questions, please contact with us or our agent.

Please note, with the improvement of this product, maybe some description in this file will be different from the real product.

# Content

Chapter 1 Safety Instruction	1
Chapter 2 Main specification and data	2
Chapter 3 Operation of Genset	3
1 Matters and attentiosn	3
2 Check before operation	4
3 Start Genset	5
4 Operate Genset	8
Chapter 4 Maintenance	10
1 Regular Maintenance	10
2 Maintenance for long time storage	12
Chapter 5 Check and Repair of Genset	13
Chapter 6 Three Guarantees	14
1 Detail rules of Product Three Guarantees	14
Maintenance Card of Genset	18

# Chapter 1 Safety Instruction

- Indoor usage of Genset is strictly prohibited
- Usage in humid condition is strictly prohibited
- Please don't connect Genset together with home electrical circuit
- Please don't overflow fuel during filling
- Please don't smoke during fuel filling
- Please stop engine during fuel filling
- Please keep combustible material at least 1 meter away from Genset

**⚠ Danger** Wrong operation may cause serious human casualty accident

**⚠ Warning** Wrong operation may cause serious human casualty accident

**⚠ Note** Wrong operation may cause serious human casualty accident or equipment damage

**👉 Attention** means it must be careful when operate diesel engine. Otherwise it may affect the performance of Genset and cause failure

- Product is under continually improvement, the figures in this file may be different from real product

# Chapter 2 Main specification and data

Item	YH4000AE	YH7000AE	YH7000ADSE	YH9000AE	YH9000ADSE	YH10000AE	YH10000ADSE	YH11000AE	YH11000ADSE	
Rated frequency (Hz)	50									
Rated voltage (V)	220/230/380/400									
Rated output (kW)	2.8	4.5	6.0	7.0	8.0					
Speed (rpm)	3000									
Power factor	1.0	0.8	1/0.8	1/0.8	1.0	0.8	1/0.8	1.0	1/0.8	
Phase	Single	Three phases	Single	Three phases	Single	Three phases	Single	Three phases	Single/Three phases	
Excitation mode	Self excitation with brush									
Structure	Open type									
Fuel consumption	≤275									
Fuel capacity(L)	12	17								
Running hour(h)	10	9	7	7	7	5.5				
Noise	85dB									
Engine model	YH178F/A-E	YH186FA/A-E	YH192F/A-E	YH195F/A-E	YH1100F/A-E					
Bore*stroke(mm)	78*62	86*72	92*75	95*75	100*85					
Displacement(cc)	269	418	499	531	667					
Compression rate	19/1									
Max output (HP)/(rpm)	3.7/3000	5.7/3000	7.5/3000	8.0/3000	9.5/3000					
Weight(kg)	73	113	115	116	120	122	123	120	142	
Size(mm)	650×500×550									
	734×487×600									
	744×541×710									

# Chapter 3 Operation of Genset

## Matters and Attention



To ensure correct operation of Genset, please read this manual carefully. Special attentions must be paid to the following items, otherwise it may cause accident and equipment damage.

**1. fire proof** Fuel used for this engine is light diesel. Gasoline and kerosene are not allowed.

Wipe the overflowed fuel with clean cloth. Keep gasoline, kerosene, match and other flammability and explosive material away from Genset because of high temperature around muffle during engine running.

Enough ventilation condition is required for fire proof. During operation, Genset must be at least 1.5 meter away from buildings and other equipment.

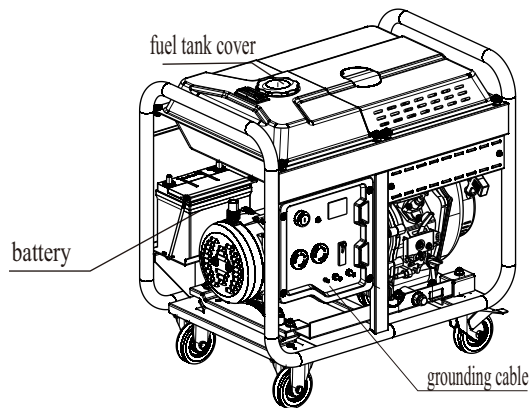
The base must flat. If it's decline, fuel may overflow.

**2.Prevent suck of exhaust** There is poisonous CO in exhaust. Genset must not be used in area with bad ventilation. If it must be used indoor, good ventilation is necessary to avoid accident.

**3.Prevent hur** During operation of engine, please don't touch muffle, muffle cover is allowed.

**4.electric shock, short circuit** This Genset waterproof performance is not good, to avoid electric shock, short circuit, it must not be used in rain, snow, or frog places.

To avoid electric shock, it must be grounded. Connect the grounding place and outside grounding device. Please don't connect other equipments to Genset before start.



## Check before operation

- Operation temperature of Genset (-5°C - 40°C)
- Operation humidity: below 95%.
- It output rated power at places altitude less than 1000m, less power at places altitude more than 1000m.

### 1.Check oil level



■ **Oil is the main factor affecting engine performance and life. Dirt oil or rape oil must not be used.**

■ **Oil level can be checked after Genset stop for more than 10 minutes at horizontal place.**

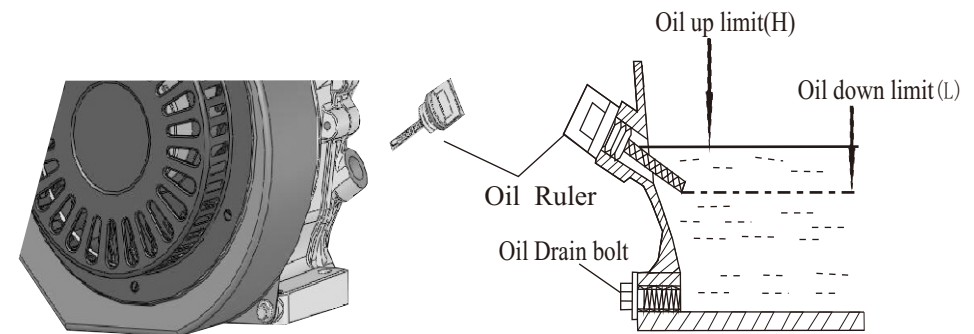
■ **Different type CD diesel oil is strongly recommended for different temperature.**

(CD40 is recommended for temperature above 20°C, CD30 for less than 20°C )

(Usually oil type is marked on the plate of tank.)

Please selection oil with appropriate viscosity according ambient temperature.

- (1) Take out oil ruler and clean it.
- (2) Then insert it into oil filling port without turning.
- (3) Take out oil ruler. It must be within the up and down scales.



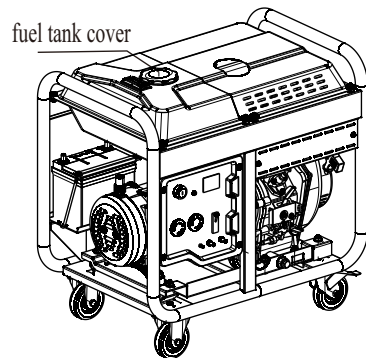
**Running engine without enough oil may damage engine seriously.**

## 2. Check fuel level

- Take off fuel tank cover and check fuel level. If it's too low, please fill fuel.
- Please select 0 diesel when it's above 5°C, -10 diesel when it's below 5°C.
- Mixture between diesel and oil, and dirt diesel must not be used.  
Avoid dirt, dust and water entering into fuel tank.

### **⚠ Danger**

- Diesel is flammable and may explode in certain condition.
- Diesel can be filled only when engine is stopped at good ventilation.  
No smoking and spark is allowed around fuel filling place.
- Don't overflow diesel. The fuel tank cover must be tightened and cleaned after filling (there should be no diesel around filling port).
- Avoid skin contact frequently or long time, breath diesel vapor.
- Please place diesel at places where kids can't access.



## 3. Check air filter

Take off air filter cover and check filter element to ensure it's clean and good. If it's necessary, please clean or replace the filter element.

Check whether there is dust in filter. If there is, please clean it. Please don't clean filter with cleaning agent.

When output power is low or exhaust is abnormal color, please replace filter element.

### **⚠ Note**

**When air filter is not installed, please don't run Genset. Otherwise dirt or dust may enter into cylinder and fasten engine abrasion.**

## 4. Battery

Check the electrolyte level of battery once a month. When level reaches down scale, please fill distilled water so that level reaches up scale.

If the battery electrolyte is less, diesel engine may fail to start because of electrical shortage. Keep the electrolyte level between up limit and down limit.

With too much electrolyte, it may overflow and rust components around it.

### **⚠ Note**

**For mute type Genset start, turn start key to " ON", then to " Start" after fuel electromagnet actuated.**

## Start Genset

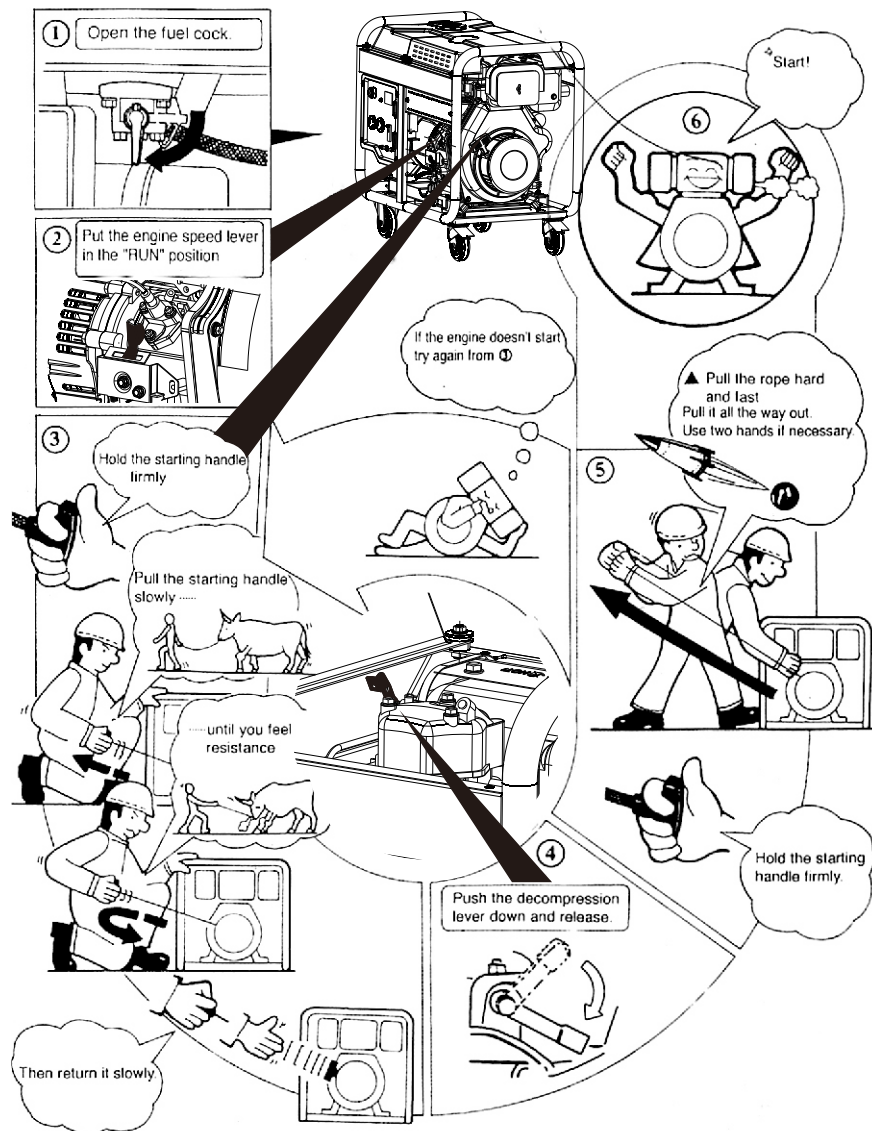
(This process can only be used for manual anti-shock start mode Genset)

- (1). Turn on fuel tank switch to discharge air in fuel pipe.
- (2). Pull the Start Handle till not feeling resistance, then loose it.
- (3). Pull the pressure-release handle and release it, then enclasp start handle with two hands and pull start cable fast  
(If it fails to start, repeat above process)

### **⚠ Note**

- It can be started when the start cable is pulled out for at least 1 meter.
- During start, after pull pressure-release handle, release it, after the start cable is pulled out, pressure release plate drop automatically
- Please don't pull start cable with one hand and pressure release plate with another hand.
- Don't let start cable retract to engine fast, it must retract with the spring force to avoid damage of starter.

## START THE DIESEL ENGINE



## Operate Genset

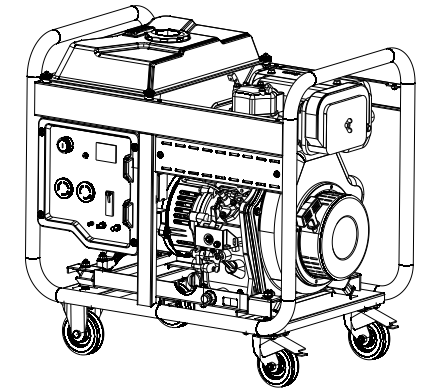
### 1. Operate Diesel Engine

A. Pre heating diesel engine for 3 minutes without load

B. For diesel engine with oil pressure warning system, oil indicator must be checked.

For diesel engine with oil pressure warning system, oil warning indicator will be lighted when oil pressure is low or lack of lubricating oil and diesel engine will stop. If it starts again without filling oil, it will stop automatically immediately. Check oil level and fill oil.

C. Don't loose adjust bolt of maximum speed or maximum bolt of high pressure pump (it has been set before delivery). Otherwise it



### 2. loading

It must be loaded according specification and must not be over loaded.

#### AC application

(1).Genset speed must be set to rated speed (switch the speed adjusting handle to end). Otherwise automatic voltage regulating device will be forced excitation. If it works for long time in such status, AVR will be damaged. The rated speed is mentioned in Chapter 2.

(2).Connect breaker, check the voltage on panel, it can be loaded only after the voltage reaches 230V 5% (50HZ) for single phase set, 400V 5% (50HZ) for 3 phases.

(3).For exchange of dual voltage Genset, the breaker must be set to OFF. Otherwise it may burn Genset and electrical device.

(4).During connecting with generating device, each device must be connected in turn. If according to capacity, the motor with larger power must be started first. Only after the large power motor has been started, can the small power motor be started. It can't be started at the same time. Wrong operation may decrease speed or stop engine suddenly. It must be unloaded immediately. Then turn off generating switch to check the failure.

If AC breaker works actuates because of AC overloaded, decrease the load. It can't be overloaded. It must be stopped for some minutes before working again. If the voltage is too high or too low, it can adjust the engine speed. It must be stopped when there is failure or it works abnormally.

### (5).3 phase genset

- During operation, if the difference among 3 phases is more than 20%, it must be stopped to check.
- The load of 3 phases must be balance without big difference. The load difference must be not more than 20%.
- Load of each phase must be not more than specification, 1/3 of rated power, and current less than rated current.
- When start 3 phase motors, the motors with higher power must be started first.

### DC application

- (1).The DC connecting pole can only be used for charging of 12V battery.
- (2).When charging with 12V source, The charging switch can be connected to 12V output pole.
- (3).When automatic battery with battery cable is used, the negative pole cable must be disconnected.
- (4).Connect the Positive and Negative poles with DC connecting pole separately. Don't connect wrong poles, otherwise it may damage genset battery.
- (5).Don't let battery positive and negative poles contact. Otherwise it may damage battery.
- (6).Don't let positive and negative poles contact, otherwise it may damage Genset.
- (7).When charging to high capacity batter, the fuse may be burnt because of high current (the charging current must not be more than 8A).
- (8).Battery may generate flammable gas during charging. Keep spark, fire and smoke far away from battery. To avoid spark, first connect charging cable to battery, then to Genset. When disconnecting, disconnect Genset cable first.
- (9).Charge battery at places with good ventilation. Before powering, turn off battery cover, if electrolyte temperature is more than 45°C, charging must be stopped.
- (10). The connecting cable of battery must be taken off if Genset will be not used for long time to avoid power discharge.
- (11).3 phase Genset outputs 12V DC output. It can charge its battery. The battery is connected in the starting circuit. When diesel engine enters into running status, then 12V output will charge battery.

**⚠ Note** When Genset poles are connected to battery, please don't add lighting load or power load.

## Chapter 4 Maintenance

### Regular Maintenance

To let Genset at good status, periodic maintenance is important. Genset consists of diesel engine, generator, control cab, frame, etc. Check, maintenance, and repair must be carried out according to the manual of each part.

Before maintenance, it must be stopped. If diesel engine must run, there should be good ventilation. There is poisonous CO in exhaust.

Genset must be cleaned after use to avoid rust.

Maintenance Interval / Project	Everyday	First month or 20 hours later	Thrid month or 100 hours later	Sixth month or 500 hours later	First year or 1000 hours later
Check and fill fuel	○				
Drain Fuel		○			
Check and fill Oil	○				
Check oil leakage	○				
Check and tighten parts	○			● Tighten Cylinder head bolt	
Replace Oil		○ First Time	○ Second time and later		
Clean Oil filter				○ Replace, if it's necessary.	
Replace Air filter element	If it is used in dusty area, the check interval must be shortened			○ Replace	
Clean fuel filter				○	● Replace
Check High pressure pump				●	
Check injector				●	
Check fuel pipe				● Replace, if it's necessary.	
Adjust intake/exhaust valve clearance		● First Time		●	
Grinde intake/exhaust valve					●
Replace piston ring					●
Check battery electrolyte	Every month				
Check electrical brush and slip ring				●	
Check insulation resistance	It's stopped for more than 10 days. ○				

“ ● When special tools are required, please contact local dealer.

## 1. Replace Oil

Oil can be drained completely when engine is warm.

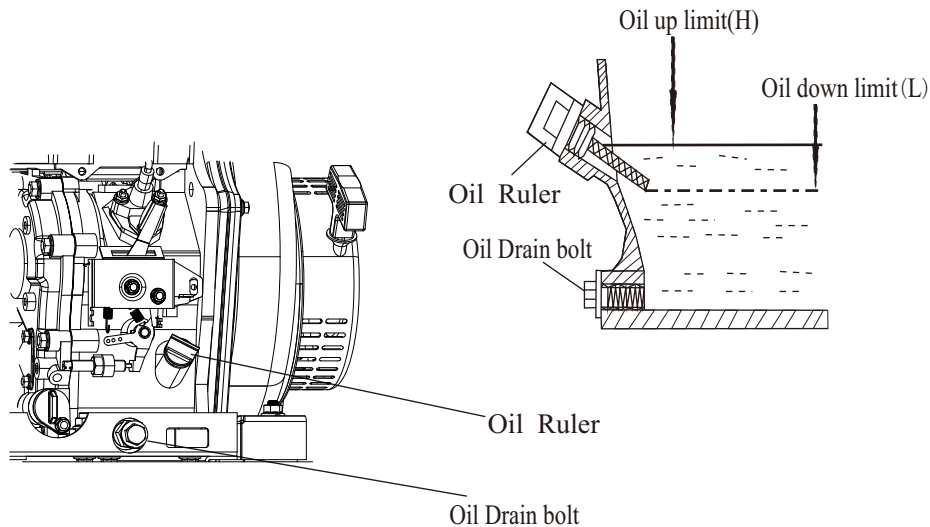
- (1). Take out the oil ruler and drainage bolt, then drain oil.
- (2). Assemble the drainage bolt and tighten it.
- (3). Refill clean oil to the specified level;
- (4). The oil quantity must meet the level specification.

### ⚠ Note

The oil must meet the specification requirements (CD40 for above 20°C, CD30 for below 20°C). Wash hands with clean water and soap after touching oil.

### ⚠ Note

Please protect environment during oil disposal. It's suggested to contain used oil and send to discard disposal places. Don't just discard it into rubbish or pour on the floor.



## 2. Maintenance of Air Filter

Dirt air filter will affect engine power, decrease its life. Please maintain air filter regularly. In very worse condition, please increase the maintenance frequency.

### ⚠ Warning

Air filter must be installed before running engine. Otherwise it will accelerate the abrasion.

### ⚠ Note

Please don't operate Genset without air filter. Dirt or dust may be taken into cylinder which will accelerate engine abrasion.

(1). Take off thumb nut and rain proof cover, and disassemble them. Check the filter element. If it's damaged, please replace with a new one.

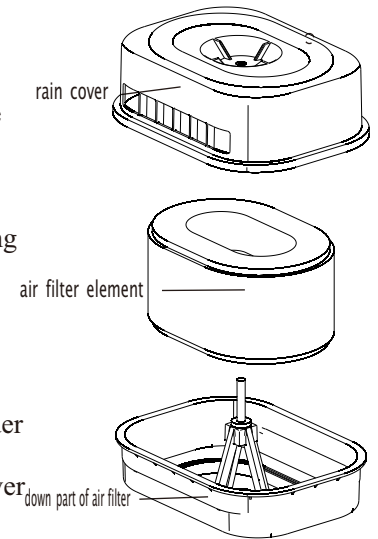
(2). For paper filter element: Beat the filter element on hard ground to get rid of dust on surface or blast with pressed air (not more than 30Psi) from inside to outside. No brush is allowed. If the filter element is very dirt, please replace with a new one.

(3). Then re-assemble the filter element and rain proof cover.

### Maintenance of long term storage

If the Genset will be stored for long time, please make following prepare.

- (1). Run diesel engine for 3 minutes. Then stop it.
- (2). Break diesel engine. When engine is still warm, drain lubrication oil and fill new lubricating oil.





## Chapter 5 Check and Repair of Genset

### Check and repair

	failure reason	repair method
Diesel engine fails to start	Lack of fuel	Fill fuel
	Fuel switch not at "Start" Position	Switch fuel handle to "ON" position
	High pressure pump, injector doesn't inject or inject small fuel	Remove injectors and test on injector lab
	Speed control handle not at "Run" position	Switch control handle to "RUN" position
	Check lubricating oil level	The lubricating oil level should be between the up limit and down limit.
	Not pull anti-shock fast	Please start diesel engine according to "start process"
	Injector dirt	Clean injector
	Battery lack of electrical power	Charging battery or replace battery
Generator fails to generate power	NFB doesn't connect	Switch main switch to "Contact" position
	Carbon brush worn or bad connection	Replace carbon brush
	Bad connection of socket	Adjust socket pin
	Engine doesn't reach rated speed	Reach the rated speed as the requirements
	AVR is broken	Replace AVR
	Loss of excitation	Charge magnetism with 6V battery. Slight contact the positive connector of carbon brush with Positive pole, and negative connector with Negative pole, and the inner slip ring as positive, outer slip ring as negative. During charging magnetism, the AVR must be disconnected to avoid damage.

If it fails to charge, please contact with our company dealer or us directly.

## Chapter 6 Product Three Guarantees

### Detail Rulers of Three Guarantees

#### 1. Effective period

The effective period is calculated from the day purchasing it according table 1.

Table 1 Effective period of Three Guarantees

Content of Three Guarantees		Effective Period of Three Guarantees	Genset
Whole unit		9 month	3 months
		1 year	
Main components (cylinder block, flywheel, cylinder head)		18 months	6 months
		2 years	
Other components	Cylinder sleeve, piston, crankshaft, rocker, rocker shaft, gear		3 months
	High pressure pump assembly (not including plunger and fuel outlet valve matching part), injector assembly (not including matching parts), motor, oil pump, bearing bush, bush, sleeve, oil seal, cylinder gasket, fuel pipe,		Solve the failures during trial of purchasing.
	fuel tank, air filter, silencer, oil sump, fan cover		
	Gear house cover		6 months
	Starter and Generator		1 month
	Injector matching parts, plunger matching parts, fuel outlet matching part, valve, valve guide pipe, valve seat		3 months
<p>(1).Parts in this table are not included into the Three Guarantees. It will be charged for replacement.</p> <p>(2).Assorted sets have special three guarantees period requirements to engine. It will be decided based on both sides agreements. It must not be more than that of whole set.</p> <p>(3).The effective period of three guarantees is calculated from the purchasing day.</p> <p>(4).When the usage time is more than the specified time, it will be taken as outside of three guarantees period. Fatal quality problems will be dealt with according to national rules.</p>			

## **2.Three Guarantees Range**

- (1).In the validity period of three guarantees of diesel, the quality problem or component damage caused by component material or manufacture problem can be repaired, replaced or returned according to the rule.
- (2).When customer applies for “Three Guarantees” service, the valid warrant must be provided, including the purchase receipt of unit whose validity period is still effective, three guarantees warrant, diesel engine certification. The compliance of nameplate and diesel engine must also be checked.
- (3).When customer applies for Three Guarantees service, after check the effective warrant, the service will be carried out by the principle of Try best to repair, Give priority to repair.
- (4).The validity period of three guarantees will be from when the effective receipt is released by finance department, by taking out the repairing time of three guarantees, and waiting timing of components for repair.
- (5).Within 15 days since the unit is sold, if components included in the 10 items of table 2 fail, it still can't work after repair, the component or the unit will be replaced by mender.
- (6).Within the validity period of three guarantees, during the normal operation of diesel engine, if it happens significant incident causing unit scrap or human injury, the incident field must be kept. And the close service station must be contacted. It will be dealt with after the confirmation by professional Three Guarantees service people.
- (7).The determinant of farmer application can be confirmed with the following conditions. Two or more people prove, assorted farmer machine of diesel engine, continued for more than 3 months record of farmer operation, farmer usage time is more than 60%.

## **3.Non-three guarantees range**

- (1).Out of the validity period of Three Guarantees service (repair, component replacement out of the validity period will be charged.)
- (2).Diesel without Three Guarantees Warrant, and receipt issued by finance department, and failed to prove the it is still in the validity period of three guarantees.
- (3).The product specification, type of Three Guarantee Warrant or receipt doesn't match the exact product.
- (4).The injector matching parts, plunge piston matching parts, valve, valve guide pipe, valve seat are worn or seized after its normal try run during purchase.
- (5).The key slot of flywheel is damaged because of wrong disassemble, assemble, not enough tightening force. Or the key slot has cracks on the opposite direction of force because of wrong operation and damages cased by outer force or other human factor.

- (6).Abnormal worn of cylinder sleeve, piston, valve, valve seat, because of not fill oil in air filter, clean air filter regularly, use qualified air filter or filter element, not seal intake air system, not clean air filter dust according to the requirements of Manual causing dust entering into cylinder.
- (7).Failure of cylinder scuffing, abnormal worn of crankshaft, gear, rocker shaft, camshaft, etc caused by lack of oil, wrong oil, oil leakage, water in oil or dirt fuel because of long time usage. And failure of connecting rod bolt rupture, cylinder body, connecting rod, crankshaft, camshaft and other components damage caused by not stop engine in time after bushing-burning.
- (8).Because of dust, dirt covering on radiating rib, fan and some other cooling components of cooling system, the radiating effect is very bad causing high temperature problem of diesel engine.
- (9).Failure caused by modifying, adjusting, removing key parts and components not according to the specification listed in Manual, for example customer is not allowed to adjust or remove the fuel limiter, adjust the speed adjustor working range.
- (10).Failure caused by using unqualified components which purchased by customer.
- (11).Failure caused by usage condition out of the range specified in Manual, working at over speed, over load for long time. Failure caused by not performing trial run check, or powertrain doesn't match well.
- (12).Not keeping field condition after failure, or dealing with failure without the agreement of sales causing impossible to deal with failure reason.
- (13).Failure caused because of storage time out of effective storage period of diesel engine causing fuel metamorphose, component rust, damage, missing or rubber components aged.
- (14).Failure of cylinder, piston scrap, connecting rod bend caused by dirt entering into cylinder.
- (15).Failure caused by unauthorized driver, operator.

## **4.Replace, Return of Product**

- (1).Replace after sales will be dealt sales person after contacting with and confirmed by sales person.
- (2).During the validity period of Three Guarantees of unit, if it still can't work normally after repair twice, the assembly or components will be replaced by mender. If it still can't work normally after replace, with the prove of mender, Three Guarantee Warrant and effective receipt, the whole unit can be replaced by same type and same

(3).It can be replaced with the same type, same specification product for free if it can't be repaired 20 days after it's sent back for repair, based on the record of mender and by discussing between customer and sale person.

(4).During replacement, sale person must take back the Three Guarantee warrant, and give a new one which is signed with impression. The Three Guarantee period of new unit will be calculated again. The fuel tank and accessory, air filter, muffler, pulley, frame and attachment tools will not be replaced together with the unit.

(5).If it still doesn't work normally after 15 days since replacing it, this can be returned. Sales should return this product for customer for free.

(6).During the validity period of unit three guarantee, if the unit meets the replace requirements, and customer fails to replace it because of lack of same product, customer can ask for return. And sales must return this product for customer for free.

(7).Sales can contact with company to replace new units for the replaced or returned product according to above items, together with the unit and Three Guarantee warrant.

(8).During replacement, return, the absent components must be provided or paid. Any adulterate parts or bought from other company will not be replaced or returned.

Table 2 removable components

Serial Number	Name	failure
1	internal Combustion engine	over speed cause engine damaged
2	cylinder body	crack, causing leakage sand hole, loosen,high-strength bolt damage
3	cylinder head cover	crack, rupture
4	cylinder sleeve	crack, key lot craze
5	crankshaft	crack, key lot craze
6	balance shaft	rupture cause significant damage of engine
7	connecting rod, connecting rod cover	rupture
8	connecting rod bolt	rupture
9	piston pin	rupture
10	camshaft	rupture

## Maintenance Card of Genset.

### Guarantee method

For any quality problem caused by manufacture quality, if the unit work time is within 9 months or the work time is less than 1000 hours, customer can take the broken components to our company or the authorized service station for analysis. If it's because of quality problem, the repair will be free.

Customer name		Contact phone number	
Customer address		Post code	
Diesel engine type		Diesel engine serial	Delivery date
Genset type		Purchase date	
Guarantee validity period			
<p>Sale department signature</p> <p><b>Note:</b>            1. This page must be filed by the sales people and sign with impression, and given to customer to take is as Three Guarantees Warrant within the validity period.            2. The back side will be filled by the mender in detailed. And it must be signed by customer. Then sent back to company quality department for analysis.</p>			

## Repair Record

Deliver for repair date		Finish date		Serial Number	Replaced Component Name	Quantity
Complained problem	damaged components mark			1		
				2		
				3		
Check, analyze, and solution				4		
				5		
				6		
				7		
				8		
service people _____				9		
Customer Sing				10		
				Mender or commission unit sign		

## **ОФИЦИАЛЬНЫЙ ДИЛЕР В УКРАИНЕ:**

[storgom.ua](http://storgom.ua)

## **ГРАФИК РАБОТЫ:**

Пн. – Пт.: с 8:30 по 18:30

Сб.: с 09:00 по 16:00

Вс.: с 10:00 по 16:00

## **КОНТАКТЫ:**

+38 (044) 360-46-77

+38 (066) 77-395-77

+38 (097) 77-236-77

+38 (093) 360-46-77

Детальное описание товара: <https://storgom.ua/product/mast-group-212252.html>

Другие товары: <https://storgom.ua/dizelnye-generatory.html>