WARRIOR GENERATORS

LDG6000SA
DIESEL GENERATOR
OWNERS MANUAL

BEFORE OPERATING THIS EQUIPMENT
PLEASE READ THESE INSTRUCTIONS CAREFULLY

Preface

Thank-you for purchasing this ² I·NJNJλ2NJ generator.

This operation manual contains information on how to operate and service your generator correctly. Please read this manual thoroughly before using your ² I·NJNJλ2NJ generator to ensure the proper operation. By following these instructions carefully, the best working condition of this generator is maintained therefore extending the life of this machine. If you have any problems or queries, please do not hesitate to get in touch.

The information contained in this manual is correct at the time of printing, however this information may vary with development of the product in the future.

To ensure correct and safe running of this machine, please take careful note of all safety warnings and cautions.

⚠ WARNING

The 'Warning' label indicates that failure to follow these warnings properly can result in property damage, serious injury or death. Read all labels and this user's manual before operating this generator. Only operate this machine is well ventilated areas. Exhaust gas contains poisonous carbon monoxide which can be deadly. Always stop the engine before refuelling and then wait 5 minutes before re-starting the machine. Check for spilt fuel or leaks and clean and/or repair these before use. Keep any sources of ignition away from the fuel tank at all times.

⚠ CAUTION

The 'Caution' label indicates that severe personal injury or equipment damage may occur if instructions are not followed carefully.

This ² I·NJNJλ2NJ generator will meet your requirements if you operate it properly according to this manual. If the instructions in this manual are not followed carefully personal injury, equipment damage or death may occur. For this reason, it is very important to read and understand all information contained in this manual before operating your ² I·NJNJλ2NJ generator.

WARNING:

CAUTION

1. **To prevent fire**
   Never add fuel to the fuel tank whilst the engine is running. Wipe away any spilt fuel or oil with a clean cloth before operating. Keep explosives and any other flammable products away from the machine at all times.

   -To prevent fire and to provide adequate ventilation, keep the generator at least one metre away from buildings and other equipment during operation.
   - Operate the generator on level ground.
   - Do not place the generator indoors whilst the engine is still hot.

2. **To prevent inhaling exhaust fumes**
   Exhaust gas contains poisonous carbon monoxide which is harmful to health and can kill. For this reason, never use the generator in a closed area or areas with poor ventilation.

3. **To prevent burns**
   The muffler and the engine body becomes very hot whilst the engine is running or just after running. To prevent any burns, do not touch these parts during these times.

4. **Electric Shocks, Short Circuits**
   To avoid electric shocks or short circuits, do not touch the generator if your hands are wet. This generator is not waterproof and should not be used in an area which is exposed to rain, snow or water sprays. The use of this generator in a wet place can cause short circuits and electric shocks during operation.

   - The generator should be grounded to prevent electric shocks from faulty appliances. Connect a length of heavy cable between the generator's ground terminal and the and an external ground source.

   - Do not connect tools or other appliances to the generator before it has been started. If equipment is connected starting the generator may cause sudden movements of the equipment, resulting in accidents or injuries. It may also damage the alternator.

⚠ CAUTION

- Most electric motors require up to 3 times the rated wattage to start
- Do not exceed the specified current limit of any socket.
- Do not connect the generator to a household circuit of a house or building unless it is through a mains/generator changeover switch

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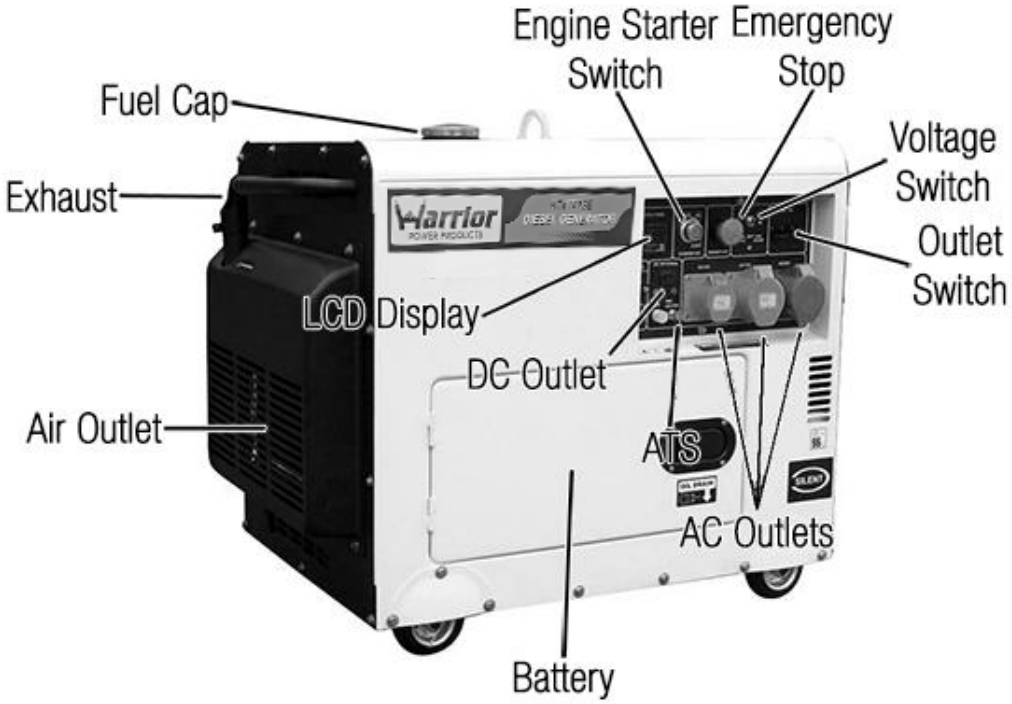
1. MAIN TECHNICAL SPECIFICATIONS AND DATA

Model		[5Dсллл{ !
Generator	Rated Frequency (Hz)	50
	Max. Power (KW/kVA)	5/6.o
	Voltage (AC) (V)	1ЁммлØ мс l·YLJ ɜ м Ё ммлØ онl·YLJкнплØ онl·YLJ
	tKl·ăŜ	{ʎyƎfŜ
	Engine speed (r/min)	3c00
	5ʎăLJfl·ŏŜYŜyŭ	пму
	{ŭl·ɴŭ {èăŭŜY	9fŜŎŭɴʎŎ YŜè {ŭl·ɴŭ
	DC Output	12v
	Run time	ƀмн hour ʒ мкп f2l·Ř
	b2ʎăŜ [ŜØŜf	сф Ř . l· ʒ тY
	Engine Model	мусC ! 9
	bŜŭŭ Weight (kg)	1ну
	Dimensions (LxWxH) (mm)	910 x 5ол x 7п0

2. CONFIGURATION

2.1 Parts Names



3. PREPERATION FOR STARTING

3.1 Selection and Handling of the fuel

- **Selection of fuel**
  Only use standard specification diesel, this can be red or white
- **Keep dust and water out of the fuel**
  When filling the fuel tank from drums, make sure that no dust or water is mixed in with the fuel. This can cause serious damage to the fuel injection pump or the injector nozzle.
- **Do not overfill**
  Overfilling can potentially be very dangerous. Always leave a 25mm gap above the fuel level.

⚠ WARNING

- Refuel in a well ventilated area with the engine stopped.

- Do not smoke or allow flames or sparks in the area where the engine is refuelled or where the fuel is stored.

- Do not overfill the diesel tank and make sure the filler cap is securely closed after refuelling.

- Take care not to spill fuel when refuelling. If any fuel is spilled, make sure the area is clean and dry before starting the engine.

3.2 Check and Refill the Engine Oil

⚠ WARNING

- Always check the engine oil level with the generator on a flat, level surface before starting or refilling the machine.

- If an insufficient amount of engine oil is used, damage to the engine may result. It is also dangerous to overfill the engine with oil, as in extreme cases, the piston oil control ring cannot cope with the excess oil and the engine oil that passes to the combustion chamber above the piston rings can combust and the engine may over-rev highly with no throttle control, causing severe damage.

⚠ WARNING

This generator is equipped with a low oil pressure warning system. This system will stop the engine automatically when the oil pressure falls below the minimum pressure required. This

helps prevents damage such as bearing seizures etc. However, this should not be relied upon and the engine oil level should be checked and topped up if required, daily.

To ensure the generator maintains a top quality performance and the life of the generator is as long as possible, it is important to use the correct engine oil - **SAE15w40 diesel engine oil** and **change after the first 20 hours, then every 100 hours.**

If the correct engine oil is not used, or the engine oil is not replaced every 100 hours, as required, the risk of crankshaft bearing failure, piston seizure, piston ring sticking and accelerated wear of the cylinder liner, main bearing and failure of other moving components increases significantly. This means that the generator life will be shortened.

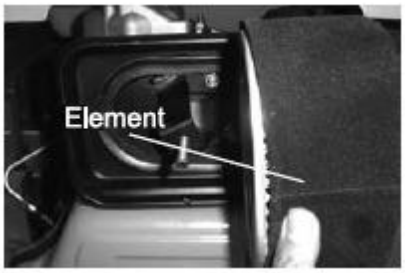
3.3 Service the air cleaner

1. Remove the air cleaner inspection cover.
2. Screw off the wing nut and remove the air cleaner cover and take out the element.

⚠ WARNING

- Do not wash the element with detergent.
- Replace the element if the engine output decreases or a excessive exhaust smoke is noticed.
- Never run the generator without the element, otherwise rapid engine wear will result.

3. Reattach the air cleaner cover and screw on the wing nut.



3.4 Checking the Generator before start up.

1. Turn **off** the main breaker switch and remove all loads.

⚠ WARNING

Be sure to turn off the main breaker switch before starting. The generator should be earthed to prevent electric shocks.

⚠ CAUTION

- Before starting the engine, be sure to switch OFF any appliances connected to it.

- Ensure that the breaker switch is OFF before switching between 115v/230v.

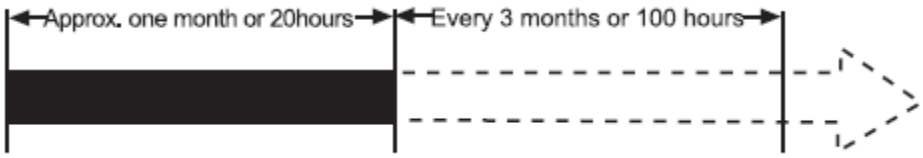
3.5 How to open the cabinet door and covers of this ² I-NJNJ3Λ2NJ generator

1. Open the cabinet door for daily inspection. Turn the lever counter clockwise and raise the door.
2. Loosen the bolt of the air cleaner cover to check the air cleaner.

3.6 Break-in Period Operation

The first 20 hours are the break-in period of the engine. For this reason, it is important to follow the following instructions during this period.

- Warm up the engine 5 minutes after the initial starting, before applying load.
- Avoid applying loads above 3kw during the first 20 hours of operation.
- It is important to replace the engine oil on time. Replace the engine oil whilst the engine is warm, after 20-hours running. Ensure that old engine oil is drained out completely.



4. STARTING THE GENERATOR

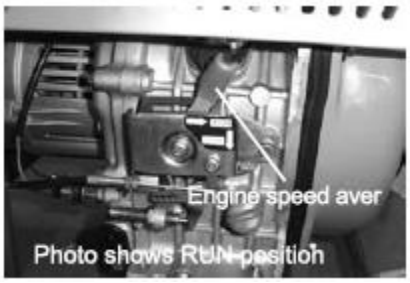
⚠ WARNING

Do not connect tools or any other appliances to the generator before starting.

1. Starting

1. Open the fuel cock.

2. Set the engine speed lever to the 'RUN' position.



3. Turn the starting key clockwise to the 'START' position. Remove your hand from the key as soon as the engine starts. If the engine does not start after 10 seconds, wait 15 seconds before trying again. If it does not start after 3 attempts, check that the fuel system is fully primed.

⚠ CAUTION

- Running the starter motor for a long time will cause the battery to go flat and may damage the starter motor.

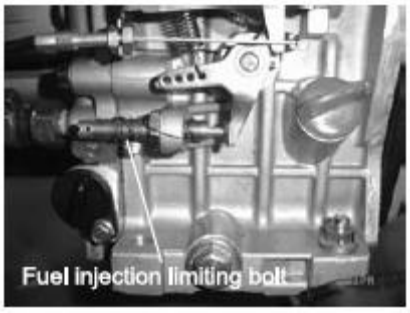
- Always leave the starting key in the 'ON' position while the engine is running.

2. Battery

1. When you first install the battery, ensure that the battery's polarity is the same as the generator's battery leads - Black = negative, Red = positive. Check the voltage is 12.3V+, if lower, the battery must be charged.
2. Check that the voltage is correct every month. The battery should be between 12.5v and 13.6v. When the engine is running it should re-charge the battery.
3. If the battery voltage is too low, it will require charging before use.
4. Keep the battery in a cool, dry place. It is important to clean the battery every three months and charge every six months.

5. OPERATING THE GENERATOR

1. Warm up the engine without load for around three minutes.



2. Check that the oil alarm lamp is lit. This ensures that the low oil warning system is working.

⚠ CAUTION

- This generator features a low oil pressure warning system. This is activated by low oil pressure or engine oil shortage. In these cases the engine will stop automatically. The machine will not restart without refilling the engine oil. Check the oil level and refill.

- Do not loosen or readjust either the engine speed limiting bolt or the fuel injection limiting bolt as this will cause the performance of the generator to be affected.

5.2 Checks during the running of the generator

1. Check that there is no abnormal sound or vibration.
2. Check that the engine is running smoothly without mis-fire.
3. Check the colour of the exhaust- Is it too black or white?
4. Check that there are no oil or fuel leaks.

If you notice any of the above, stop the engine and find the fault. Please contact Genpower for assistance if required.

⚠ CAUTION

- If the engine has been running, the muffler will become very hot. Be careful not to touch the muffler until it has had time to fully cool down.

- Never refuel the fuel tank whilst the engine is still running.

6. LOAD

⚠ CAUTION

- Do not start 2 or more appliances simultaneously- start them one by one.

- Do not use floodlights together with other appliances

6.1 230v AC Use

1. After switching ON the main breaker switch, check the voltmeter reading. The voltmeter should point to 230v ± 5% (50Hz) for single-phase and 400v ± 5% for three phase generators, the load can now be applied.

Connect the equipment to the generator in correct order. Connect the loads with the largest motor first, then the smaller items. If the generator is overloaded the main breaker will trip.
- Reset the breaker trip switch and reduce the electrical load on the circuit. Wait a few minutes before resuming operation.

⚠ NOTE

6.2 12v DC Use

1. DC terminals are only for charging 12V batteries.
2. Set the main AC breaker switch to the 'OFF' position whilst charging.

⚠ CAUTION

- Connect the positive and negative charging lead clips to the correct poles of the battery.

- If you try to charge a large capacity battery, which is at a low voltage, excessive current flow may occur. This may result in the fuse for the 12v DC blowing.

- Do not use 12V DC and 230V AC at the same time.

⚠ CAUTION

Battery Charging

- Battery vents contain explosive gas. For this reason, keep sparks, flames and cigarettes away from the battery. To prevent from creating a spark near the battery always connect the charging cables to the battery first and only then to the generator. When disconnecting, you should disconnect the cables at the generator first.

- Charge the battery in a well ventilated area.

- Before charging, remove the cap from each cell of the battery and ensure the electolyte level is correct.

- Stop charging if the electrolyte temperature exceeds 45°C.

6.3 Electrical appliances, particularly motor driven equipment, will have a very high start-up current. The table below provides reference for connecting these appliances to the generator.

Type	**Wattage**		**Typical Appliance**	**Example**		
	Starting	**Rated**		**Appliance**	**Starting**	**Rated**
Lighting **Heating appliance**	X1	X1	Incandescent lamp or heating appliance	Incandescent lamp 1000w	100VA (w)	100VA (w)
Fluorescent lamp	X2	X1-1.5	Fluorescent lamp	Fluorescent lamp	80VA (w)	40 -60VA (w)
Motor Driven Equipment	X3-5	X1-2	Refrigerator or electric fan	Refrigerator 150w	450-750VA (w)	150-300VA (w)

7. STOPPING THE GENERATOR

1. Disconnect the load from the generator.
2. Turn off the main breaker switch.

3. Run the generator without load for three minutes. Do not stop the engine suddenly or whilst under load. This can damage the AVR and cause damage to the alternator through overheating.

- Turn the electric key start switch to the 'OFF' position, or Press down the stop lever.
- Turn the fuel cock lever to the 'S' position

⚠ WARNING

- Do not stop the engine with the decompression lever.

- Do not stop the generator when under load. Serious damage to the alternator and the AVR may occur.

8. PERIODIC CHECKS AND SERVICE

Periodic checks and service are extremely important for keeping the engine in good condition and durable. The chart below indicates what checks to make and when to make them.

⚠ WARNING

- Ensure the engine is off before performing any service. If the engine must be run, make sure that the area is well ventilated. The exhaust contains poisonous carbon monoxide gas.

Item	Every Day	First Month or 20 hours	Three Months or 100 hours	Six Months or 500 hours	Every Year or 1000 hours
Check and refill with diesel	Yes				
Change engine oil		Yes	Yes		
Check and refill engine oil	Yes				
Check for oil leakage	Yes				
Check and tighten fastening parts	Yes			Yes	
Replace engine oil		Yes - first time	Yes		
Clean engine oil filter			Yes	Yes	
Replace engine oil filter				Yes	
Replace air cleaner element	(Service more frequently when used in dusty areas)			Yes	
Replace fuel filter				Yes	
Check fuel injection pump				Yes	
Check injector nozzle				Yes	
Check fuel pipes				Yes- Replace if necessary	
Adjust clearance of intake/exhaust valves		Yes- First Time		Yes	
Grind intake/exhaust valves					Yes
Replace piston rings					Yes
Check battery condition			Yes		
Check carbon brushes and slip rings				Yes	

If you need technical advice, please contact us for assistance.

8.1 Replace engine oil

Remove the oil filler cap. Remove the drain plug and drain the old oil while the engine is still warm. The plug is located on the bottom of the cylinder block. After draining, re-tighten the drain plug and refill with the recommended oil.

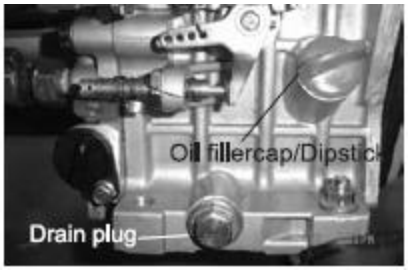
8.2 Engine oil filter

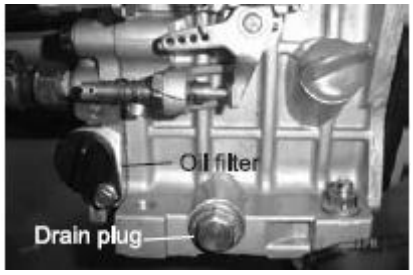
Clean	Every 100 hours
Replace	Every 500 hours

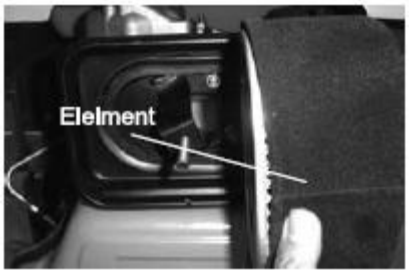
8.3 Replace the air cleaner element

Do not clean the air cleaner element with detergent.

Replace	Every 6 months or 500 hours or sooner in dusty conditions







⚠ CAUTION

- Never run the engine without the air filter element or with a damaged element.

8.4 Clean and replace fuel filter

The fuel filter should be replaced regularly to ensure maximum engine output.

Replace	Every 6 months or 500 hours or sooner if contaminated with dirt or water

1. Drain out the fuel from the fuel tank.
2. Replace filter.

8.5 Tighten cylinder head bolt

Tightening the cylinder head bolt requires special tools. Contact us for assistance.

8.6 Engine maintenance

1. Adjust the clearance of the intake/exhaust valves.
2. Grind the intake/exhaust valves.
3. Replace the piston rings.
4. Check injector nozzle.

All of these operations require special tools, contact us for assistance.

⚠ WARNING

- Do not perform the injection nozzle test near an open fire or any other kind of fire. The fuel spray may ignite. Do not expose bare skin to the fuel spray, the fuel may penetrate the skin and cause severe injury or death. Always keep your body away from the nozzle.

8.7 Check and charge the battery

1. When you first install the battery, ensure that the battery's polarity is the same as the generator's positive and negative leads (Red to positive, black to

negative). Check the voltage is above 12.3V, if not the battery should be charged.

2. Check the voltage, once a month. The voltage of a standard battery is 12.5v-13.6v.
3. If the battery voltage is too low, it should be removed and re-charged.
4. Keep the battery in a cool, dry place. It is important to clean the battery every three months and re-charge every 6 months.

⚠ WARNING

- The battery electrolyte contains sulphuric acid. Protect your eyes, skin and clothing. In case of contact, flush thoroughly with water and get immediate medical attention, especially if it has made contact with your eyes.

- The battery vents can give off hydrogen gas, which can be highly explosive. Do not smoke or allow flames or sparks near the battery, especially during charging.

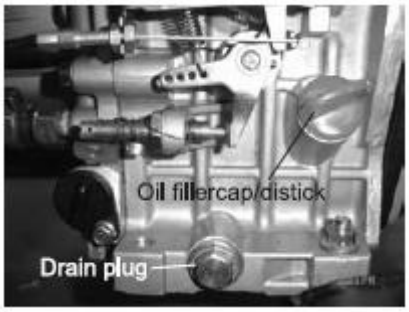
8.8 Check the alternator carbon brushes and slip rings

Check the generators carbon brushes and slip rings regularly. Readjust if there is a poor contact or the brushes are worn.

9. Long-Term Storage

If storing the generator for long periods of time, make the following operations.

1. Operate the engine for 10 minutes and then stop.
2. Stop the engine. Drain the engine oil whilst the engine is still warm and refill with fresh oil.

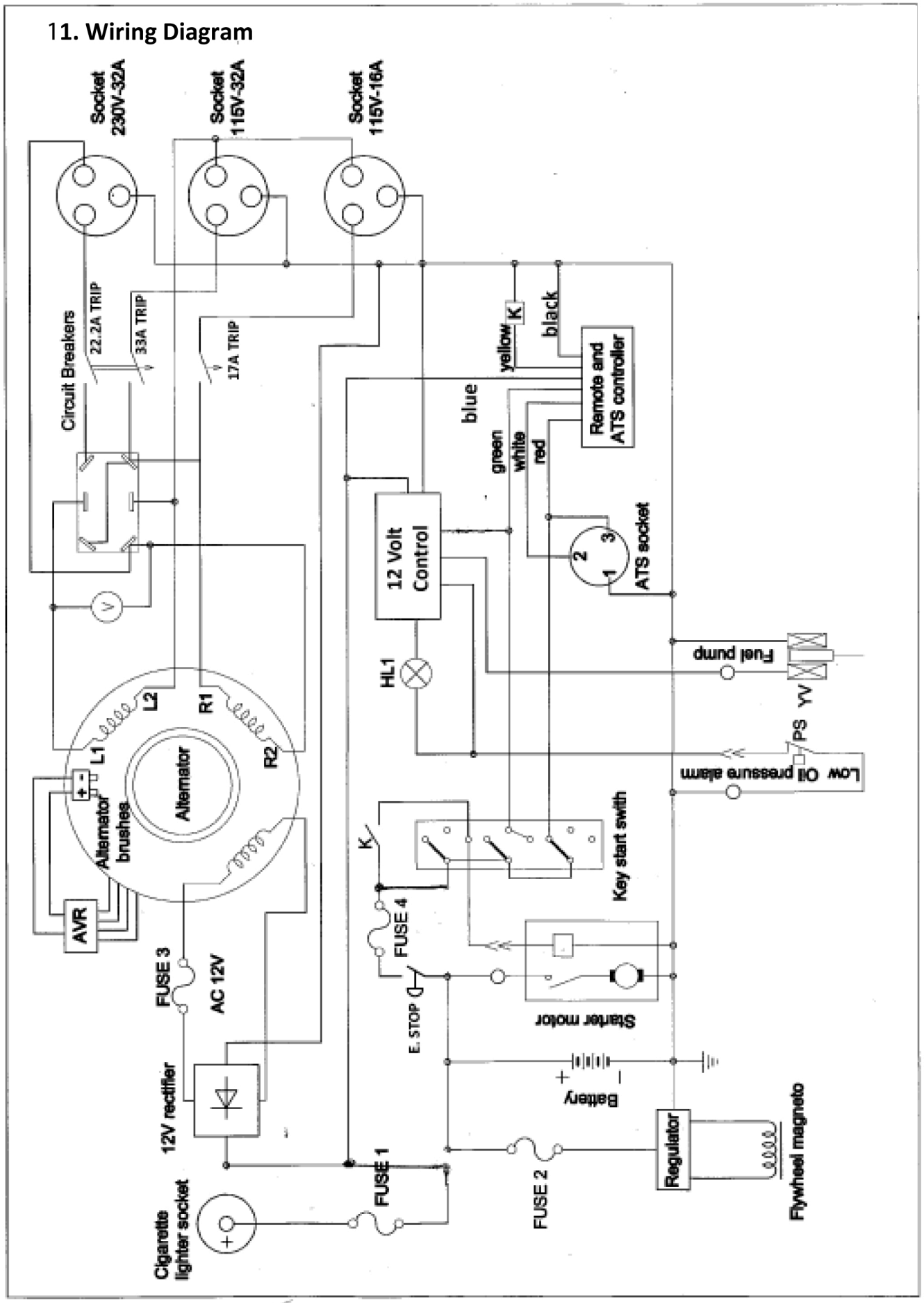


3. Remove the screw plug on the cylinder head cover and fill with 2cc of engine oil, then put the plug back in place.
4. Turn the engine for 2-3 seconds with the decompression lever set at the non-compression position and the starting key set at the 'START' position. (Do not start the engine.)
5. Wipe off the oil and dirt from the engine and store in a dry place.

10. TROUBLESHOOTING AND REMEDY

Problem	Fault Cause	Remedy
The diesel engine will not start	Insufficient fuel	Refill with fuel
	Fuel tap is not at ON position	Turn it to the 'ON' position
	Fuel injection pump does not deliver the fuel or deliver insufficient fuel	Remove the injector pump and have tested.
	The governer lever is not at START position	Set the lever to START position
	Check the engine oil level	The specified oil level should be to the upper level.
	The injector is full of carbon	Clean the injector
	The starter motor turns too slowly	Check battery charge and 12v connections - replace starter motor
	The battery is flat	Charge it or replace it with a new one
The generator is not producing power	Main breaker switch has not been turned on	Turn the main breaker switch to the 'ON' position
	Alternator brushes worn	Replace the brushes
	The contact in the socket is not good	Ensure plugs are fully inserted into sockets
	The rated speed is excessive	Adjust engine speed to produce 52hz with no load
	AVR is damaged	Replace the AVR

11. Wiring Diagram



12. Service Record Sheet

Date	Hours	Maintenance undertaken	Name

13. Notes

14. Declaration of Conformity

² l·NJNJƛƧNJ DŜyŜNJl·ŭƧNJă confirms that this ² l·NJNJƛƧNJ Diesel Generator conforms to the following:

CE Directives:

- **2006/42/EC Machinery Directive**
- **2004/108/EC EMC Directive**
- **2006/95/EC Low Voltage Directive**
- **2000/14/EC Noise Emissions Directive**

Warranty

This ² l·NJNJƛƧNJ generator is covered by a 12 month/1000 hour Warranty. The warranty covers manufacturing defects only, not wear and tear. The following are not covered under warranty:

- Damage caused by improper use, dropping, wrongly adjusting, or failing to follow the operating and service requirements, e.g lack of lubrication
- Any parts replaced due to wear and tear will be chargeable.
- Damage due to overloading, under-loading, overheating, poor quality fuel, etc.

The following components are not covered under warranty:
-AVR
-Air filter
-Oil filter
-Fuel filter
-Brushes
-Any fuel related issues

In the event of a warranty claim, please contact ² l·NJNJƛƧNJ DŜyŜNJl·ŭƧNJă.

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WARRIOR GENERATORS

CONTACT WARRIOR TECH DEPARTMENT

For any technical or faults please contact warrior direct on the following number or write:

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YOUR LOCAL DEALER