Single Phase Diesel Generator - GXS14000D Series II

User Manual

READ THIS MANUAL CAREFULLY BEFORE USE – FAILURE TO DO SO MAY RESULT IN INJURY, PROPERTY DAMAGE AND MAY VOID WARRANTY. • KEEP THIS MANUAL FOR FUTURE REFERENCE. • Products covered by this manual may vary in appearance, assembly, inclusions, specifications, description and packaging.

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NOTICE REGARDING EMISSIONS

Engines that are certified to comply with U.S. EPA emission regulations for Non-Road Large Compression Ignition (CI), are certified to operate on regular diesel fuel.

GENERAL SAFETY PROCEDURES

Please familiarize yourself with the following safety symbols and words:

The safety alert symbol ⚠ is used with one of the safety words (**DANGER, CAUTION,** or **WARNING**) to alert you to hazards. Please pay attention to these hazard notices both in this manual and on the generator.

DANGER: Indicates a hazard that will result in serious injury or death if instructions are not followed.

WARNING: Indicates a strong possibility of causing serious injury or death if instructions are not followed.

CAUTION: Indicates a possibility of personal injury or equipment damage if instructions are not followed.

⚠ **DANGER: POISONOUS GAS. Generators give off carbon monoxide, a poisonous gas that can kill you quickly. You CANNOT smell it, see it, or taste it.**

- **ONLY run generator outdoors and away from air intakes, open windows, and garages.**
- **NEVER use generator inside homes, garages, or sheds, EVEN IF you run a fan or open doors and windows.**

If you start to feel sick, dizzy, or weak while using the generator, shut it off and get to fresh air RIGHT AWAY. See a doctor. You may have carbon monoxide poisoning.

⚠ **WARNING: The exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.**

⚠ **WARNING: This generator may emit highly flammable fuel vapors, which can cause severe burns or even death. A nearby open flame can lead to explosion even if not directly in contact with fuel.**

- **Do not operate near open flame. Do not smoke near generator.**
- **Always operate on a firm, level surface.**
- **Always turn generator off before refueling. Allow generator to cool for at least 2 minutes before removing fuel cap. Loosen cap slowly to relieve pressure in tank.**
- **Do not overfill fuel tank. Diesel fuel may expand during operation. Do not fill to the top of the tank.**
- **Always check for spilled fuel before operating.**

⚠ WARNING: This generator produces powerful voltage, which can result in electrocution.

- **ALWAYS ground the generator before using it (see the "Ground the Generator" portion of the "PREPARING THE GENERATOR FOR USE" section).**
- **Generator should only be used to connect electrical devices, either directly or with an extension cord. NEVER directly connect the generator to a building's electrical system without a transfer switch. Such connection must comply with local electrical laws and codes, and should be done by a licensed electrician. Failure to comply can create a backfeed, which may result in serious injury or death to utility workers.**
- **Use a ground fault circuit interrupter (GFCI) in highly conductive areas such as metal decking or steel work. GFCIs are available in-line with some extension cords.**
- **Do not use in rainy or wet conditions.**
- **Do not touch bare wires or receptacles (outlets).**
- **Do not allow children or non-qualified persons to operate.**

⚠ WARNING: Never connect a generator directly to any existing electrical building circuit. The generator can backfeed into power lines and electrocute nearby electrical repair workers.

⚠ WARNING: This generator produces heat when running. Temperatures near exhaust can exceed 150° F (65° C).

- **Do not touch hot surfaces. Pay attention to warning labels on the generator denoting hot parts of the machine.**
- **Allow generator to cool several minutes after use before touching engine or areas which heat during use.**

CAUTION: Misuse of this generator can damage it or shorten its life.

- Use generator only for its intended purposes. Operate only on dry, level surfaces.
- Allow generator to run for several minutes before connecting electrical devices.
- Shut off and disconnect any malfunctioning devices from generator.
- Do not exceed the wattage capacity of the generator by plugging in more electrical devices than the unit can handle.
- Do not turn on electrical devices until *after* they are connected to the generator.
- Turn off all connected electrical devices before stopping the generator.

GENERATOR COMPONENTS

Please familiarize yourself with the locations and functions of the various components and controls of your generator.

(1) **Muffler-** Reduces engine noise.

(2) **Fuel Gauge-** Indicates the amount of fuel in the tank.

(3) **Fuel Cap-** Access to the fuel tank for adding fuel.

(4) **Electric Start Switch**- Used to start/stop engine.

(5) **Low Oil Light-** Illuminates when generator engine has insufficient oil.

(6) **Voltage Meter-** Indicates that voltage is running to receptacles.

(7) **Voltage Select Switch**- Use to choose power from either 120 V or 240 V receptacles.

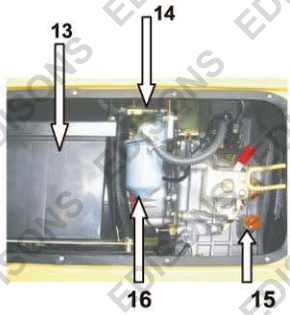
(8) **Circuit Breaker-** Protects the generator from electrical overload.

(9) **DC Receptacle-** provides 12V, 8.3A output. DC current.

(10) **Ground Terminal-** Connect grounding wires here to properly ground unit.

(11) **120/240 Volt AC Receptacle**- Use to connect electrical devices that run 120 and/or 240 Volt,60 Hz, single phase, AC current.

(12) **120 Volt GFCI AC Receptacle**- Use to connect electrical devices that run 120 Volt, 60 Hz, single phase, AC current.



(13) **12V Battery-** For electric start.

(14) **Fuel Valve-** Allows fuel to flow from fuel tank

(15) **Oil Fill and Dipstick-** Location for checking and filling engine oil.

(16) **Fuel Filter-** Traps dirt and water from fuel before in enters the engine

PREPARING THE GENERATOR FOR USE

Using the Generator for the First Time

The following section describes steps you must follow to prepare the generator for first-time use. Failure to perform these steps properly can damage the generator or shorten its life.

If you are using the generator for the first time, there are a few steps you must take to prepare it for operation:

Step 1- Connect the Battery

⚠ WARNING:

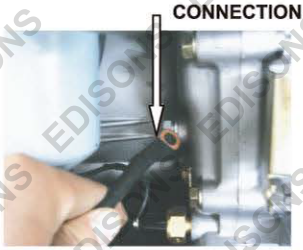
- **Do not connect or disconnect battery while generator is running.**
- **Service or use battery only in well ventilated areas.**

⚠ WARNING:

- **Wear protective clothing and eyewear when servicing battery.**
- **Keep out of reach of children.**
- **Do not tilt generator with battery installed.**

The generator comes with the battery disconnected for safety. To start the generator, the battery needs to be connected. To do so:

1. Remove the protective covering from the free end of the negative battery cable. This cable is connected to the generator on the other end and is located in the vicinity of the battery.
2. Attach the free end of the negative cable to the battery and secure the connection. (see figure 1)



NOTE: The battery negative cable may be come already connected to the battery. If this is the case, connect the free end of the cable to the engine bolt near the top of the image.

Figure **1-connect the negative cable**

NOTE: If you do not plan to use the generator for a long period of time, it is recommended to disconnect the negative battery cable before storage. After disconnecting the cable, cover the free end with an insulator such as electrical tape.

Step 2 - Add oil

The generator requires engine oil to operate properly. The crankcase of the new generator contains **no oil**. The proper amount oil must be added before operating the generator for the first time. The oil capacity of the engine crankcase is approximately 56 fluid oz. For general use, we recommend SAE 5W-40 oil to fill the engine crankcase.

To add oil, follow these steps:

1. Make sure the generator is on a level surface
2. Open the front panel (panel 2) and locate the oil filler/dipstick cap. Unscrew the oil filler/dipstick cap from the engine as shown in figure 2.
3. Using a funnel, add the appropriate amount of oil into the crankcase. The crankcase is full when the oil level reaches the lower lip of the opening of the oil filler hole (see figure 3).
4. Reinstall oil filler cap and secure tightly.

Figure 2- Unscrewing the oil cap

Figure 3- Adding oil

Step 3- Add Diesel Fuel

⚠ **WARNING: Diesel fuel and diesel fumes are highly flammable. A nearby open flame can lead to explosion even if not directly in contact with fuel.**

- **Do not operate near open flame. Do not smoke near generator.**
- **Always operate on a firm, level surface.**
- **Always turn generator off before refueling. Allow generator to cool for at least 2 minutes before removing fuel cap. Loosen cap slowly to relieve pressure in tank.**
- **Do not overfill fuel tank. Fuel may expand during operation. Do not fill to the top of the tank.**
- **Always check for spilled fuel before operating.**
- **Empty fuel tank before storing or transporting the generator.**
- **Before transporting, turn fuel valve to off position.**

This generator runs on #2 DIESEL FUEL only (regular diesel fuel as found in a local gas station). To add fuel:

1. Make sure the generator is on a level surface.
2. Unscrew fuel cap and set aside (NOTE: cap may be tight and hard to unscrew).
3. Slowly add diesel fuel to the fuel tank through the built-in strainer. Do not let dirt or water get in the fuel tank.

1. Be careful not to overfill. The capacity of the fuel tank is 4.2 gallons (16 L). The fuel gauge on top of the tank indicates the fuel level. NOTE: Fuel can expand. Do not fill the fuel tank to the very top. See figure 4.
2. Reinstall fuel cap and wipe up any spilled fuel with a dry cloth.

Figure 4- Maximum recommended fuel level in tank.

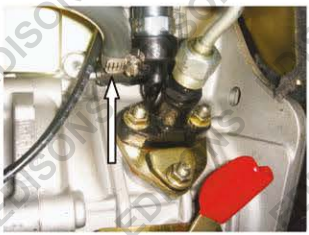
IMPORTANT:

- Use #2 diesel fuel only. Never use unleaded gasoline.
- Avoid getting dirt or water in the fuel tank.

Step 4- Bleed the Fuel Line

When adding diesel fuel for the first time or after the fuel tank has been emptied or drained, air can get trapped in the fuel line between the fuel tank and the engine. After adding fuel, you must bleed the fuel line of this trapped air. To bleed the fuel line:

1. Turn the fuel valve to the "off" position. Loosen the clamp that holds the fuel line to the engine (See figure 5). Detach the fuel line from the engine. Place the end of the detached fuel line over a bucket to catch fuel as it runs out.
2. Turn the fuel valve to the "on" position.
3. When fuel starts running out of the fuel line in a steady stream, reattach the fuel line to the engine. NOTE: Do not close the fuel valve until you have reattached the fuel line.
4. After reattaching the fuel line to the engine, turn the fuel valve to the off position until you are ready to start the generator.



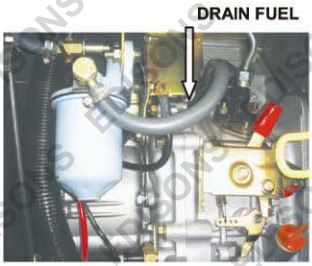


Figure 5- Bleeding the fuel line

Step 5- Ground the Generator

⚠ **WARNING: Failure to properly ground the generator can result in electrocution.**

Ground the generator by tightening the grounding nut against a grounding wire (see figure 6). A generally acceptable grounding wire is a No. 12 AWG (American Wire Gauge) stranded copper wire. This grounding wire should be connected at the other end to a copper or brass grounding rod that is driven into the earth.
Grounding codes can vary by location. Please contact a local electrician to check the grounding regulations for your area.

Figure 6-Grounding nut location

Subsequent Use of the Generator

If this generator has been used before, perform the following steps to prepare it for operation.

IMPORTANT: At this point you should be familiar with the procedures described in the first portion of this section entitled "Using the Generator for the First Time." If you have not yet read this section, go back and read it now.

Step 1- Check the Oil

The generator is equipped with an automatic low-oil shutoff to protect it from damage. Nonetheless the oil level in the engine should be checked before each use to ensure that the engine's crankcase has sufficient lubrication. To check the oil level:

1. Make sure the generator is on a level surface.
2. Open the front panel (panel 1) and locate the oil filler/dipstick cap. Unscrew the oil filler/dipstick cap.
3. With a dry cloth, wipe the oil off the stick on the inside of the cap.
4. Insert the dipstick as if you were reinstalling the cap then remove again. There should now be oil on the stick. If there is no oil on the stick, or oil at the very end of the stick, you should add oil until the engine crankcase is filled (when the oil level has reached the lower lip of the oil-fill opening).
5. Be sure to reinstall the oil filler cap and secure tightly when finished.

NOTE: The oil capacity for this generator is 56 fluid oz.

Step 2 – Check the Fuel Level

Before starting the generator, check to see if there is sufficient diesel fuel in the fuel tank. The fuel gauge on top of the generator will indicate the fuel level in the tank. Add fuel if necessary.

⚠ **WARNING: Diesel fuel and diesel fuel fumes are highly flammable.**

- **Do not fill tank near an open flame.**
- **Always allow engine to cool for several minutes before refueling.**
- **Do not overfill (The fuel tank capacity of this generator is 4.2 gal.). Always check for fuel spills.**

IMPORTANT:

- Use only #2 DIESEL FUEL. Do not use gasoline.
- Avoid getting dirt or water in the fuel tank.

Step 3- Bleed the Fuel Line

It is only necessary to bleed the fuel line if the generator is being used for the first time or if the generator has been emptied of fuel since last use. To bleed to fuel line, follow the steps explained in the "Using the Generator for the First Time" portion of this section.

Step 4- Ground the Generator

⚠ **WARNING: Failure to properly ground the generator can result in electrocution.**

Ground the generator by tightening the grounding nut against a grounding wire (see figure 6). A generally acceptable grounding wire is a No. 12 AWG (American Wire Gauge) stranded copper wire. This grounding wire should be connected at the other end to a copper or brass grounding rod that is driven into the earth.

Grounding codes can vary by location. Please contact a local electrician to check the grounding regulations for your area.

STARTING THE GENERATOR

Before starting the generator, make sure you have read and performed the steps in the "Preparing the Generator for Use" section of this manual.

⚠ WARNING: This generator produces powerful voltage, which can result in electrocution.

- **ALWAYS ground the generator before using it (see the "Ground the Generator" portion of the "PREPARING THE GENERATOR FOR USE" section).**
- **This generator should only be used to connect electrical devices, either directly or with an extension cord. NEVER directly connect the generator to a building's electrical system without a transfer switch. Such connection must comply with local electrical laws and codes, and should be done by a licensed electrician. Failure to comply can create a backfeed, which may result in serious injury or death to utility workers.**
- **Use a ground fault circuit interrupter (GFCI) in highly conductive areas such as metal decking or steel work. GFCIs are available in-line with some extension cords.**
- **Do not use in rainy or wet conditions.**
- **Do not touch bare wires or receptacles (outlets).**
- **Do not allow children or non-qualified persons to operate.**

⚠ DANGER: POISONOUS GAS. Generators give off carbon monoxide, a poisonous gas that can kill you quickly. You CANNOT smell it, see it, or taste it.

- **ONLY run generator outdoors and away from air intakes, open windows, and garages.**
- **Never use inside homes, garages, or sheds, EVEN IF you run a fan or open doors and windows.**

If you start to feel sick, dizzy, or weak while using the generator, shut it off and get to fresh air RIGHT AWAY. See a doctor. You may have carbon monoxide poisoning.

⚠ CAUTION: Disconnect all electrical loads from the generator before attempting to start.

To start the generator, perform the following steps:

1. Make sure no electrical devices are connected to the generator. Such devices can make it difficult for the engine to start.
2. Check that the generator is properly grounded (see section titled "Ground the Generator").
3. Check the oil and fuel levels.
4. If the generator has run out of fuel or been emptied of fuel since the last use, or if this is the first time using the generator, be sure to bleed the fuel line (see section titled "Bleed the Fuel Line").
5. Open the front panel and locate the fuel valve .Turn the fuel valve to the "on"position (as figure7).
6. Set the engine switch key to the "on" position.
7. Turn the engine key to the "start" position for about 10 seconds or until the engine starts. NOTE: If the engine does not start within 10 seconds, release the key from the start position. Keeping the key in the start position too long can damage the starter.
8. If engine fails to start within 10 seconds release the key and wait 15 seconds, then try again. NOTE: After repeated unsuccessful attempts to start the engine, please consult the troubleshooting guide before trying again.
9. Allow the generator to run for several minutes before attempting to connect any electrical devices.

NOTE: Maximum continuous running time per day without cool-off is 6 HOURS. This is assuming oil level is correct, servicing is maintained and conditions are not considered harsh (high temperatures etc).

Figure 7-Fuel valve position

USING THE GENERATOR

⚠ WARNING: Never connect a generator directly to any existing electrical building circuit. The generator can backfeed into power lines and electrocute nearby electrical repair workers.

Allow the generator to run several minutes before connecting electrical devices.

AC Usage

CAUTION: Please familiarize yourself with the control panel before connecting electrical devices. You may connect electrical devices running on AC current according to their wattage requirements. Table 1 shows the rated and surge wattage of your generator.

The *rated wattage* is the maximum wattage the generator can output on a continuous basis.

The *maximum wattage* is the maximum wattage the generator can output for a few minutes.

The *surge wattage* is the maximum amount of power the generator can output for an extremely short period of time (seconds). Many electrical devices such as refrigerators require short bursts of extra power, in addition to the rated wattage listed by the device, to start their motors. The surge wattage ability of the generator covers this extra power requirement.

Rated (Running) Wattage	Maximum Wattage	Surge Wattage
5000	6000	6625

Table 1. Wattage specifications of this generator.

The total running wattage required by all of the electrical devices connected to a generator should not exceed the rated wattage of the generator. To calculate the total wattage requirement of the electrical devices you wish to connect, find the rated (or running) wattage of each device and add them together. Those numbers should be labeled on the device or can be found in their instruction manuals. If the wattage values cannot be found, estimate by multiplying the Voltage requirement by the Amperage drawn:

Watts = Volts x Amperes

If no specifications are available, estimate of the Watts required by using Table 2.

Once the rated wattage requirement of each electrical device is determined, add these numbers to find the total rated wattage will be draw from the generator. If this number exceeds the rated wattage of the generator, DO NOT connect all these devices. Select a combination of electrical devices, which has a total rated wattage lower than or equal to the rated wattage of the generator.

CAUTION- The generator can run at its surge wattage capacity for only a short time. Connect electrical devices requiring a rated (running) wattage equal to or less than the rated wattage of the generator. Never connect devices requiring a rated wattage equal to the surge wattage of the generator.

tool or appliance	rated (running) Watts	additional surge Watts
electric water heater (40 gal)	4000	0
hot plate	2500	0
saw- radial arm	2000	2000
electric stove	1500	0
saw- circular	1500	1500
air compressor (1 HP)	1500	3000
window air conditioner	1200	1800
saw- miter	1200	1200
microwave	1000	0
well water pump	1000	1000
reciprocating saw	960	1040
sump pump	800	1200
refrigerator freezer	800	1200
furnace blower	800	1300
computer	800	0
electric drill	600	900
television	500	0
deep freezer	500	500
garage door opener	480	0
stereo	400	0
box fan	300	600
clock radio	300	0
security system	180	0
dvd player/ vcr	100	0
common light bulb	75	0

NOTE: The above wattage figures are estimates. Try to check the wattage listed on the electrical device before consulting this table.

Table 2- Estimated wattage requirements of common electrical devices.

Once the decision has been made on what electrical devices will be powered by the generator, connect these devices according to the following procedure:

1. Turn off each device before plug in. **NOTE:** Be sure to attach appliances to the correct receptacle (outlet). Connect standard 120 Volt, single phase, 60 Hz loads **only** to the 120 Volt receptacles. Connect 240/120 Volt, single phase, 60Hz loads with a NEMA L14-30 plug **only** to the 240/120 Volt receptacle. See figure 8` for an illustration of each of these receptacles.
2. Move the voltage selector switch to the desired position. Move the switch to the left to use the standard 120 Volt receptacles. Move the switch to the right to use the 240/120 Volt receptacle.
3. Lift the circuit breaker to the "on" position.

CAUTION: Do not connect 50Hz or 3-phase loads to the generator.

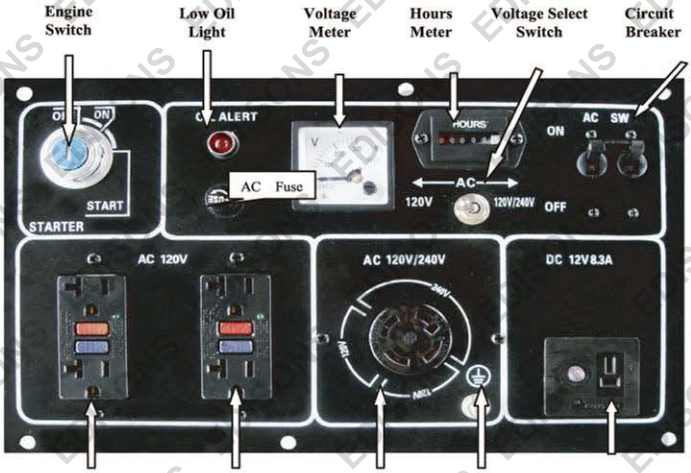


Figure 8 Control panel components on the generator

SOME NOTES ABOUT POWER CORDS

Long or thin cords can drain the power provided to an electrical device by the generator. When using extension cords, allow for a slightly higher rated wattage requirement by the electrical device See Table 3 for recommended cords based on the power requirement of the electrical device.

Device Requirements			Max. Cord Length (ft) by Wire Gauge				
Amps	Watts (120V)	Watts (240 V)	#8 wire	#10 wire	#12 wire	#14 wire	#16 wire
5	600	1200	NR	500	300	200	125
7.5	900	1800	NR	350	200	125	100

10	1200	2400	NR	250	150	100	50
15	1800	3600	NR	150	100	65	NR
20	2400	4800	175	125	75	50	NR
25	3000	6000	150	100	60	NR	NR
30	3600	7200	125	65	NR	NR	NR

*NR= not recommended

Table 3- Maximum Extension Cord Lengths by Power Requirement

DC Usage

The generator is equipped with a DC terminal. This terminal is not intended for use to charge automotive batteries.

STOPPING THE GENERATOR

To stop the generator:

1. Turn off, then unplug all connected electrical devices.
2. Allow the generator to run for several more minutes with no electrical devices connected. This helps stabilize the temperature of the generator.
3. Turn the engine switch key to the "off" position. Remove the key.

⚠ **WARNING: Allow the generator to cool for several minutes before touching areas that become hot during usage.**

CAUTION: Leaving the battery connected for long periods of time without using the generator can cause the battery to drain. Disconnect the negative battery cable from the battery for storage. After disconnecting the cable, cover the free end with an insulator such as electrical tape.

Maintenance / Care

Proper routine maintenance of the generator will help prolong its machine. Please perform maintenance checks and operations according to the schedule shown below:

CAUTION: Never perform maintenance operations while the generator is running.

Component / Task	Every Use	After First 5 Hours Use	3 Months / 25 Hours Use	6 Months / 50 Hours Use	12 Months / 100 Hours Use	Major Service – Normal Use 24 Months / 200 Hours Use	Major Service – Heavy-Duty Use Every 200 Hours Use
Engine Oil	Check level. Adjust as necessary	Replace					
Engine Oil Filter *				Clean. Replace as necessary			
Loose Engine / Machine Fasteners				Check. Tighten as necessary			
Air Filter	Check		Clean. Replace as necessary			Replace	
Spark Arrestor *							
Fuel Filter *			Clean. Replace as necessary			Replace	
Fuel Strainer *	Check						
Fuel Lines / Hoses	Check			Replace as necessary			
Fuel injector *						Check. Clean	
Fuel Pump *							
Fuel Tank						Flush and clean	
Idle Speed						Check. Adjust as necessary	
Valve Clearance						Check. Adjust as necessary	
Cylinder Head Fasteners						Check. Tighten as necessary	
Combustion Chamber						Check. Clean / de-coke as necessary	
Battery Electrolyte *				Check level. Adjust as necessary			
Major Service							Perform
Cutting Blade / Chain *	Check			Sharpen. Replace as necessary			
Water Pump Oil **	Check level. Adjust as necessary					Replace	
Hydraulic Fluid ***	Check level. Adjust as necessary					Replace	
Drive Belt *	Check tension. Adjust as necessary					Check. Replace as necessary	

* Where applicable. ** Pressure washers with non-sealed water pumps. *** Log splitters only.

NOTE:

Max continuous running time per day without cool-off is 6 HOURS @ 50% load. 4 HOURS @ 100% load.

The manufacturer recommends the unit run for no longer than 600 hours per year for optimum machine performance and to extend generator life.

The above two conditions assume the oil level is correct, servicing is maintained as per the schedule, and conditions are not considered harsh (high temperatures, dust etc)

Cleaning the Generator

Always try to use the generator in a clean, cool, and dry place. When the generator becomes dirty, clean the exterior with one or more of the following:

- a damp cloth
- a soft brush
- a vacuum
- pressurized air

Never clean the generator with a bucket of water or a hose. Water can get inside the generator, causing short circuit or corrosion.

Checking the Oil

The generator is equipped with an automatic shutoff to protect it from running on low oil. Nonetheless, the oil level should be checked before each use to ensure that the engine's crankcase has sufficient lubrication. To check the oil level:

1. Make sure the generator is on a level surface.
2. Open the front panel (panel 1) and locate the oil filler/dipstick cap. Unscrew the oil filler/dipstick cap.
3. With a dry cloth, wipe the oil off the stick on the inside of the cap.
4. Insert the dipstick as if you were reinstalling the cap then remove again. There should now be oil on the stick. If there is no oil on the stick, or oil only at the very end of the stick, you should add oil until the engine crankcase is filled (when the oil level has reached the lower lip of the oil fill opening).
5. Be sure to reinstall and secure the oil filler cap tightly. Close the front panel when finished.

Figure 9 - Checking the oil

Changing/ Adding Oil

Check the oil level before each use and change oil according to the maintenance schedule given in Table 4. When the oil level is low, add oil until the crankcase is filled (the oil level reaches the lower lip of the oil filler opening). The oil capacity of the generator engine is 56 fluid oz.

Replacing the Air Cleaner

Routine maintenance to the air cleaner helps maintain proper airflow to the carburetor. Maintenance the air cleaner according to the following steps every 250 or 500 hours, or more often when using the generator in a dusty area.

1. Remove the air cleaner maintenance panel by unscrewing the bolts with 10-mm wrench (see figure 11).
2. Remove the wing nut from the bolt holding the air cleaner cover. Remove the air cleaner cover.
3. Take out the used air cleaner element. Replace with a new element.
4. Reinstall the air cleaner cover, tighten the wing nut, then screw back the air cleaner maintenance panel.

CAUTION: Never try to wash or reuse the air cleaner element. Always replace with a new one. Never run the engine with broken air cleaner element or without one at all. This can cause serious damage to the engine.

Figure 11- Replacing air cleaner element.

Clean the Fuel Tank and Fuel Filter

The fuel filter helps prevent dirt in the fuel from entering the engine. Maintenance the fuel tank and fuel filter every 500 hours, or sooner if necessary. To clean the fuel line, do the following:

1. Turn the fuel valve to the "off" position.
2. Unscrew the bolt holding the fuel filter to the frame using a 13 mm wrench(see figure 12). Pull the fuel valve/filter assembly out of the enclosure. Place a bucket under the assembly to catch the fuel.
3. Remove the fuel filter cup, and the filter element, then open the fuel valve to drain all the fuel from the fuel tank.
4. Clean the cup of all sediment using a rag or brush.
5. Replace the fuel filter element
6. Reinstall the fuel filter element, the filter cup, and the fuel-valve/filter assembly.
7. Add fresh fuel to the fuel tank and bleed the fuel line as described in "Preparing the generator for use" section of this manual.

⚠ **WARNING: Never drain fuel while engine is running. Store fuel only in approved containers. Store fuel in a well-ventilated area free from open flames or sparks.**

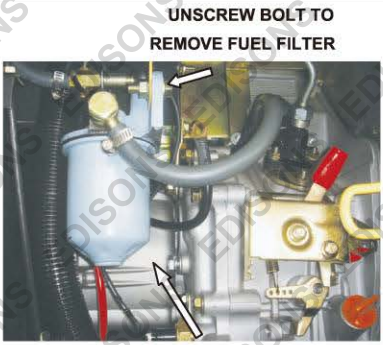


Figure 12- Fuel Filter Maintenance

Changing the Battery

⚠ **WARNING**:

- **Keep out of reach of children.**
- **Do not connect or disconnect battery while generator is running.**
- **Service or use battery only in well ventilated areas.**

If the generator will not start, the battery may be drained. The battery can be recharged. However, if your battery will no longer hold a charge, you may need to replace it. To replace the battery:

1. Disconnect the positive (+) and negative (-) cables from the battery.
2. Remove the metal bracket that secures the battery to the generator.
3. Install the replacement battery and secure to the generator with the bracket. Use a 12V battery that is 18 Ah or greater.
4. Connect the positive and negative cables to the new battery.

STORAGE / TRANSPORT PROCEDURES

⚠ **CAUTION: Never place any type of storage cover on the generator while it is still hot.**

When transporting or storing the generator for extended periods of time:

- Empty the fuel tank (see "Emptying the Fuel Tank" in the "Maintenance" section).
- Do not obstruct any ventilation openings.
- Keep the generator in a clean, cool, and dry area.

SPECIFICATIONS

Generator

AC Output

Rated Wattage	5000 W
Maximum Wattage	6000 W
Surge Wattage	6625 W
Rated Voltage	240V/120V
Rated Amperage	20.8A/41.6A
Rated Frequency	60 Hz
Phase	Single

DC Output

Rated Voltage	12 V
Rated Amperage	8.3 A

Dimensions (in.):	length= 36.8 width= 21.3 height= 29.5
Net weight:	363 lbs
Gross weight:	385 lbs

Engine

Engine type	4-stroke OHV air cooled diesel engine
Ignition system	Diesel injection
Displacement	418 cm^3
Fuel tank capacity:	16 L (4.2 US gal.)
Oil capacity	1.655 L (56fl oz.)
Run time on 75% load	8.5 hrs
Noise rating	70 dB at 7 meters, under 75% rated load

TROUBLESHOOTING

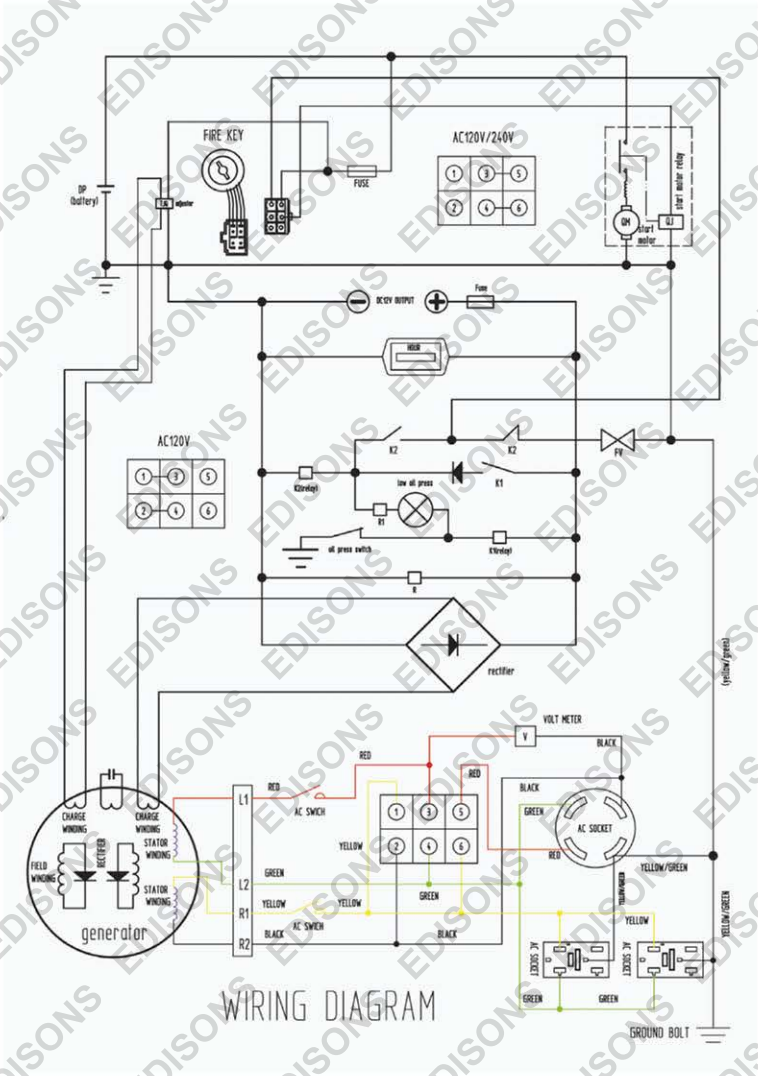
IMPORTANT: If trouble persists please call our customer help line at **(800) 232-1195** M-F 8-5 Central Time.

Problem	Cause	Solution
Engine will not start	No fuel in engine	Turn fuel valve to "open" position (handle pointing down)
	Air trapped in line	Bleed fuel line.
	Generator is out of fuel	Add fuel.
	Not enough oil in crankcase	Add or replace oil.
	Low-oil sensor failure	Add oil, disconnect low -oil sensor, start engine and let run for several minutes, then reconnect the sensor
	Generator is not on level surface.	Move generator to a level surface to prevent low oil shutdown from triggering.
	Load was connected to the generator	Disconnect all load devices from the generator
	Air cleaner is dirty.	Replace air cleaner element
	Battery is discharged	Charge the battery for 2 hours.
	Battery is dead	Replace the battery.
	Engine needs maintenance	Get a professional engine tune -up
Engine stops automatically	Generator is out of fuel	Add fuel
	Fuel line is obstructed	Clean file tank andfuel filter. Bleed fuel line
	Air filter is dirty	Replace air filter element
	Sudden increase to electrical load.	Decrease the load
Black smoke f rom exhaust	Generator is overloaded.	Decrease load.
	Oil in cylinder.	Check oil level, drain excessive oil from crankcase
	Not enough air or leaking air.	Replace air cleaner element, check and fix air leakage.
	Fuel injection malfunction.	Check inject ion pressure and spray condition, change nozzle, or call technical support.
White Smoke from exhaust	There is water in diesel fuel	Clean the fuel tank and fuel filter. Change diesel fuel
Generator runs but does not support all electrical devices connecte d.	Bad electrical device connected to generator.	Try connecting a different device
	Generator is overloaded	Perform these steps: 1. Turn off all electrical devices. 2. Unplug all electrical devices. 3. Turn off generator. 4. Wait several minutes. 5. Rest art generator. 6.Try connecting fewer electrical loads to the generator.
	Short in one of the connected devices.	Try disconnecting any faulty or short-circuited electrical loads.
There is AC output but no DC output	Burnt DC fuse	Replace with 8A fuse
	Diode failure	Replace diode

EXPLODED VIEW AND PARTS LIST

No.	Part No.	Description	Qty	No.	Part No.	Description	Qty
1	6DS001	Upper muffler	1	25	6DS025	High pressure hose clamp	1
2	6DS002	Lower muffler	1	26	6DS026	Engine front wind shield	1
3	6DS003	Muffler gasket	2	27	6DS027	Nuts	2
4	6DS004	Muffler connection pipe	1	28	6DS028	Battery clamp	1
5	6DS005	Muffler inner cover	1	29	6DS029	Battery clamping bar	2
6	6DS006	Muffler inner shield	1	30	6DS030	Battery	1
7	6DS007	Left inner engine shield	1	31	6DS031	Battery rubber cushioning	1
8	6DS008	Engine mount	1	32	6DS032	Battery supporting plate	1
9	6DS009	Muffler pipe support	1	33	6DS033	Battery support bolt	4
10	6DS010	Electric cable gaud	1	34	6DS034	Alternator wind shield	1
11	6DS011	Terminal block	1	35	6DS035	Muffler cover panel	1
12	6DS012	Rear air duct cover	1	36	6DS036	Left cover panel	1
13	6DS013	End bell bolts	4	37	6DS037	Fuel tank cover	1
14	6DS014	End bell	1	38	6DS038	Fuel strainer	1
15	6DS015	Rotor bolt	1	39	6DS039	Fuel tank rubber gasket	1
16	6DS016	Stator assembly	1	40	6DS040	Fuel gauge window	1
17	6DS017	Rotor Assembly	1	41	6DS041	Main sound shield panel	1
18	6DS018	Crankcase Cover	1	42	6DS042	Rear panel	1
19	6DS019	Air cleaner air duct	1	43	6DS043	Right panel	1
20	6DS020	Air cleaner rubber gasket	1	44	6DS044	Air cleaner cover plate	1
21	6DS021	Diesel engine	1	45	6DS045	Electric panel	1
22	6DS022	Bottom frame	1	46	6DS046	Fuel gauge	1
23	6DS023	Foot mount	4	47	6DS047	Fuel tank	1
24	6DS024	Chassis	1	48	6DS048	Fuel valve assembly	1

WIRING DIAGRAM



WIRING DIAGRAM

Some experts believe the incorrect or prolonged use of almost any product could cause serious injury or death. For information that may reduce your risk of serious injury or death consult the points below and additionally, the information available at www.datastreamserver.com/safety

- Consult all documentation, packaging and product labelling before use. Note that some products feature online documentation which should be printed and kept with the product.
- Check product for loose / broken / damaged / missing parts, wear or leaks (if applicable) before each use. Never use a product with loose / broken / damaged / missing parts, wear or leaks (if applicable).
- Products must be inspected and serviced (if applicable) by a qualified specialist every 6 months assuming average residential use by a person of average weight and strength, above average technical aptitude, on a property matching average metropolitan specification. Intended use outside these guidelines could indicate the product is not suitable for intended use or may require more regular inspection or servicing.
- Ensure all possible users of the product have completed an industry recognised training course before being given access to the product.
- The product has been supplied by a general merchandise retailer that may not be familiar with your specific application or your description of the application. Be sure to attain third party approval for your application from a qualified specialist before use regardless of prior assurances by the retailer or its representatives.
- This product is not intended for use where fail-safe operation is required. As with any product (take an automobile, aircraft, computer or ball point pen for example) there is always a small chance of a technical issue that needs to be repaired or may require replacement of the product or a part. If the possibility of such failure and the associated time it takes to rectify could in any situation inconvenience the user, business or employee or could financially affect the user, business or employee then the product is not suitable for your requirements. This product is not for use where incorrect operation or a failure of any kind, including but not limited to a condition requiring product return, replacement, service by a technician or replacement of parts could cause a financial loss, loss of employee time or an inconvenience requiring compensation.
- If this item has been purchased in error considering the points above simply contact the retailer directly for details of their returns policies if required.

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