

GILLETTE GENERATORS OWNER'S MANUAL

LEADER IN **BRUSHLESS** KLEEN-POWER PORTABLE GENERATORS SINCE 1972

FOR GILLETTE PORTABLE GEN-SET MODELS: GPE, AND GPED,
WITH KW SIZES: 5.5, 6.5, 7.5, 9.5, 10.5, 12.5, 13.5, AND 15.0 KW

READ ENTIRE INSTRUCTION MANUAL FOR SAFE OPERATION OF GENERATOR. ALSO READ SEPARATE AND INCLUDED ENGINE MANUAL BEFORE ACTUAL USE. IT IS IMPORTANT FOR USER TO KNOW HOW TO SAFELY START AND HOW TO SAFELY STOP ENGINE, BEFORE ATTEMPT OF FIRST TIME USE.

NOTICE: GILLETTE GENERATORS PORTABLE PRODUCTS HAVE BEEN CERTIFIED AND APPROVED BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA) TO MEET ALL STANDARDS FOR A SAFE CLEAN OPERATING PORTABLE GENERATOR.

***CALIFORNIA PROPOSITION 65 WARNING ***
ENGINE EXHAUST FROM THIS PRODUCT CONTAINS CHEMICALS KNOWN TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

CALIFORNIA FUEL VAPOR WARNING
IT IS MANDATORY TO INSTALL A FUEL VAPOR FILTER IN THE FUEL SYSTEM OF ALL PORTABLE ENGINE USE, FOR COMPLIANCE TO CALIFORNIA EPA LAW



DANGER



Using a generator indoors **CAN KILL YOU IN MINUTES.**
Generator exhaust contains carbon monoxide. This is a poison you cannot see or smell.



NEVER use inside a home or garage, **EVEN IF** doors and windows are open.



Only use **OUTSIDE** and far away from windows, doors, and vents.

Avoid other generator hazards.
READ MANUAL BEFORE USE

PREFACE:

This compact, lightweight **GILLETTE** generating set is a very high quality, portable electric power source. It is intended for temporary electric power to power tools, lighting, small electric motors and other similar industrial, rental, commercial and construction machinery.

Before starting your generating set, thoroughly study the instructions and cautions in this manual and the separate engine manual to insure you are fully acquainted with the operation of this set. Proper preparation, operation and maintenance will result in operator safety, best performance and long life of generating set.

For detailed engine handling, always refer to the separate engine instruction book furnished with the set.

GILLETTE is constantly improving its products. The specifications outlined herein are subject to change without prior notice or obligation. The purchaser and/or user assumes liability of any modification and/or alterations made on this equipment from original design and manufacture.

Before using, user shall determine the suitability of this product for its intended use and assumes liability therein.

1. INTRODUCTION:

This generating set consists of generator, engine, base and power take off means.


The **GILLETTE** generator is a two pole, 3600 RPM (3000 RPM for 50 hertz operation), brushless, revolving field, synchronous type design and **is completely wound, assembled and tested in Elkhart, Indiana U.S.A.** The rotor of the generator is directly connected to the engine crankshaft and the stator is rigidly coupled to the engine casting, through the bearing casting. Other styles include a generator only, key shaft extended, two bearing, foot mounted, for use with couplings or V-belt and pulley method of connection to a key shaft engine.

2. FEATURES:


POWER ASSIST is a **GILLETTE** exclusive excitation system using power capacitor and unique new winding design to insure minimum power fluctuations, maintains excellent voltage regulation without other external devices, (voltage regulator board, brushes or slip rings) and provides superior induction motor load starting power.

INNOVATIVE WINDING consists of all copper field and rotor windings, large diameter electrical grade steel laminations, Class H high 200° C heat insulation protection, all to insure against burn-outs or early failures, and **allows full generator power on all receipts without fear of winding unbalance or overloads.**

3. RULES FOR SAFE OPERATIONS:

Safety precautions are essential when operating this equipment. Using this equipment with respect and caution will considerably lessen the possibilities of personal injury. This manual will warn of specific personal injury potential, and these warnings will be designated by the symbol: 


Read your generator and engine operator manuals carefully, know your equipment before you use it. Consider the application, limitations and potential hazards before operation.


 This generating set is equipped with a ground terminal for your protection. Always complete the grounding path from the set to an external grounding source such as an external metal ground rod driven at least 2 feet into the earth, to prevent electrical shock.


Electric load applied to generating set must be within generator rating. Overloading will damage set or shorten its life.

Engine must not be run at excessive over-speed conditions. Do not tamper with parts that may increase or lower speed and result in damage to gen-set.


Generating set must reach operating speed (3750 RPM) before load is applied. Disconnect electric loads before shutting engine down.


 Maintain electrical cords in good condition. Worn, bare, frayed or otherwise damaged cords can cause electric shock.


 Never operate the generating set, or handle any electrical equipment while standing in water, while barefoot, while hands are wet, or while in the rain or snow to prevent dangerous electric shock.


 A ground fault circuit interrupter (GFCI) is installed and connected to all 120 and 240 volt receptacles. This device automatically protects the


operator when generator is used in damp or high electrical conductive areas or construction job-sites to prevent electric shock. This GFCI device is installed on your generator, and protects operator from potential electric shock from any 120 volt or 240 volt receptacle. This same device is also a load circuit breaker, eliminating the need for single, individual circuit breakers. This GFCI/circuit breaker is unique in the portable generator industry and is exclusive to **GILLETTE GENERATORS.**


 Before working on the engine or the generator, always remove the spark plug or the spark plug wire to prevent accidental engine starting.

 Check generating fuel system on a regular basis. Look for signs of leaks, deterioration, chafed or spongy fuel hose, loose or missing fuel hose clamps, rusted or damaged fuel tanks, defective fuel shut-off valve. Correct any defects before operation.

 Always provide adequate ventilation. Do not operate set in any enclosed or narrow space. Engines consume oxygen and give off deadly carbon monoxide poisonous gas. Improper ventilation will cause damage to GEN-set and possible injury to people.


 Avoid severe burns by not touching hot muffler, hot exhaust manifold, or engine cooling cylinders.

 Keep generator and engine clean. Remove all oil or gasoline deposits, and accumulated dirt from set and immediate area. Poor housekeeping creates a fire hazard.

 Keep a fire extinguisher close by your set and be familiar on how to use it. Consult your local fire department for correct extinguisher type.

 The unit should never be operated under the following conditions:

- A. Change in engine speed, slow or fast.
- B. Overheating in load connecting devices.
- C. Sparking or arcs from set.
- D. Loss of electrical output.
- E. Damaged receptacles.
- F. Engine misfire.
- G. Excessive vibration.
- H. Enclosed compartments, or confined areas.
- I. Flame or smoke.
- J. Rain, snow or water conditions.
- K. Operator non-attendance.

 The unit must be operated under the following conditions:

A. Good ventilation. Avoid areas where vapors can be trapped such as boat bilges, basements, garages, etc. Air flow and temperatures are important. Never operate set when temperature is over 110° F.

B. Engine exhaust gas is poisonous and dangerous to health and life. The gas contains carbon monoxide, an odorless, invisible gas which causes serious illness or death if breathed. Always direct exhaust fumes away from humans or animals.


C. Avoid refueling while engine is hot, still running, in the dark, near open flames or sparking electrical devices.


4. INSTALLATION:

OUTDOORS: Choose a location where generating set will not be exposed to rain, snow or direct sunlight. Make sure that set is on secure level ground so that it cannot slide or shift around. Also, position the set so that the exhaust will not be directed toward nearby people.

The installation site must be free from water, moisture, or dust. All electrical components should be protected from excessive moisture or deterioration of generator winding insulation system will happen and result in grounding or short circuit of generating system, and constantly tripping of GFCI/breaker assembly.

Foreign matters, such as dust, dirt, sand, lint, or abrasive materials can cause damage to generator and engine if allowed into its cooling system.

 **INDOORS: It is NEVER SUGGESTED OR ADVISED to install and operate a portable generator inside a building, home, business, or any type of structure, especially where humans or live stock may habitat. To do so is a life threatening possibility.**

 Remember, exhaust fumes are deadly carbon monoxide gas, when breathed, people and animals are in extreme danger of death.

5. PRE-START PREPARATIONS:

Your generating set has been thoroughly tested and inspected prior to shipment from the factory.

However, be sure to check for damaged parts, loose nuts and bolts, especially ground wires which could have occurred in transit.

GROUND: All portable generators must be grounded. The ground terminal on the generating set should always be used to connect the set to a suitable ground. The ground path should be #8 size wire, connected to a 1" copper pipe or steel rod, penetrating into the ground approximately 10". Connect copper ground clamp to the pipe and connect a #8 AWG between this clamp and the gen-set negative ground clamp.

LOCATE AND BE FAMILIAR WITH THE FOLLOWING ITEMS ON RECEPTACLE PANEL FOR SINGLE CYLINDER GEN-SET AND RECEPTACLE PANEL ON V-TWIN GEN-SET.

Most generator sets will have a receptacle panel with a variety of components, depending on the specific generator set. It is important to know that all receptacles conform to National Electrical Manufacturer's Association (NEMA) regulations and matching NEMA male caps should always be used. Always use grounded male plugs. The neutral line of generating set is mechanically grounded to frame.

CIRCUIT BREAKER: All portable single phase generating sets have automatic trip, circuit breakers to protect against electrical overloads. If possible, it is advised to switch off or remove electric load before starting engine.

BALANCED LOAD: This exclusive and patented special winding design will automatically not allow an unbalanced electric load condition while using a large 120 volt load, thereby allowing full KW generator power on any 120 or 240 volt receptacle.

ENGINE STOP SWITCH: Some models have the engine stop switch on the receptacle panel and some models have this stop switch located on the engine. Always locate this switch and be familiar with its location before operating the set.

HOUR METER: All GPE models indicate the hours of use to help in determining service periods. This particular generator has the following features:

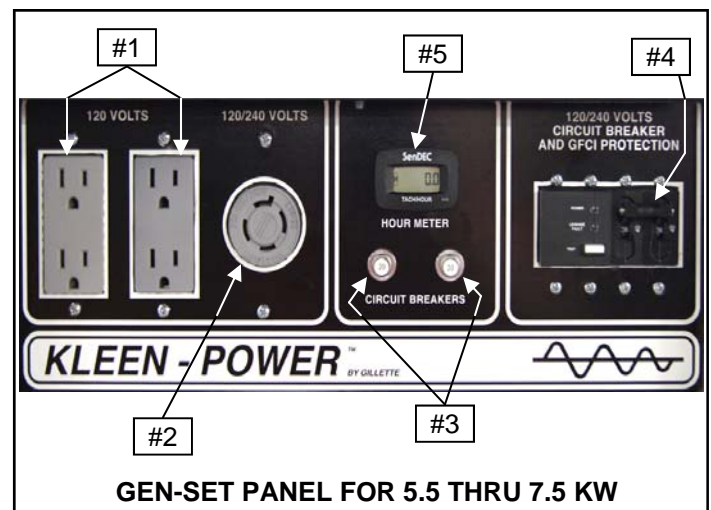
1) **HOUR METER:** Calculates and totals the entire running time of gen-set. This is particularly helpful in determining service periods of the engine.

2) **TACHOMETER:** This meter is part of the hourmeter and is functional when small push button on hourmeter

housing is depressed. It calculates and displays the speed of gen-set, which is set at 3750 RPM, at no load. NOTE: There is no voltmeter on operator's panel to determine voltage output, due to short life of meter mechanism undergoing normal engine vibration. However, the engine speed set at 3750 RPM equates to 125/250 volts at no load.

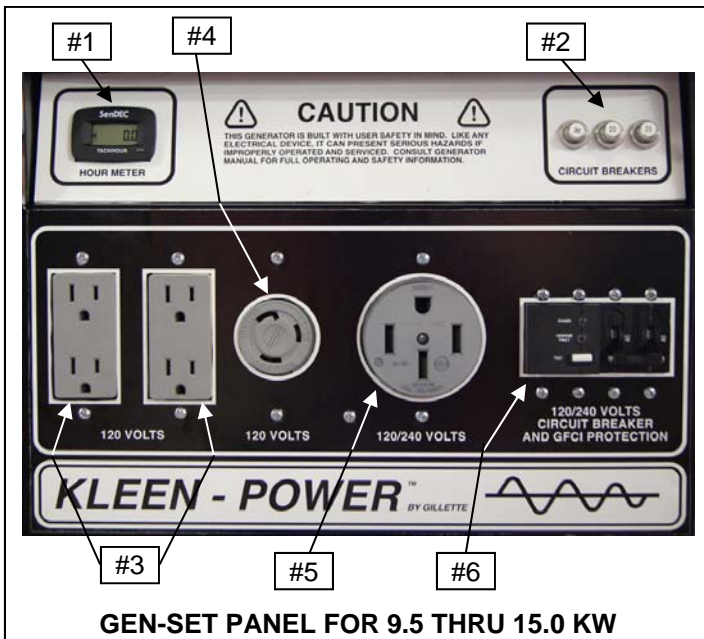
3) **TWO SERVICE ALERTS:** At each 25 hour run time of engine, the service alert "CHG OIL & FILTER" AND "SVC ENG AIR CLEANER" will appear on the tachometer.

4) There is a mode button on meter bezel of tachometer, that allows repair/operator to scan the various alerts (hourmeter, tachometer, and (2) service alerts). Simply press the mode button for each topic of information. Once service is complete, the mode button should be pressed to show the tachometer reading. The engine speed should be adjusted to run at no load, 3750 RPM. This speed equates to the correct generator voltage of 125/250 at 61-62 hertz, and replaces the need of the short lived voltmeter.



- 1) STANDARD 120 VOLT, 15 AMP, NEMA 5-15R RECEPTACLE
- 2) STANDARD 120/240 VOLT 20 OR 30 AMP NEMA L14-20R OR NEMA L14-30R TWIST-LOCK, 4 WIRE RECEPTACLE.
- 3) PUSH BUTTON, THERMO RE-ACTING MAIN CIRCUIT BREAKER
- 4) TWO POLE MAGNETIC RE-ACTING MAIN CIRCUIT BREAKER WITH BUILT-IN GFCI PROTECTION (See note below).
- 5) RUN TIME METER

NOTE: GILLETTE EXCLUSIVE, COMBINATION MAIN LINE CIRCUIT BREAKER AND GROUND FAULT CIRCUIT INTERRUPTER, BUILT INTO ONE PIECE CONSTRUCTION. SEE PAGE 10 FOR ADDITIONAL GFCI INFORMATION.



- 1) RUN TIME METER
- 2) INDIVIDUAL PUSH BUTTON CIRCUIT BREAKERS
- 3) NEMA 5-20R, 120 VOLY DUPLEX RECEPTACLES
- 4) STANDARD 120 VOLT, 30 AMP TWIST-LOCK RECEPTACLE
- 5) STANDARD 120/240 VOLT, STRAIGHT BLADE RECEPTACLE
- 6) TWO POLE MAGNETIC RE-ACTING MAIN CIRCUIT BREAKER WITH BUILT-IN GFCI PROTECTION (See note below).

NOTE: GILLETTE EXCLUSIVE, COMBINATION MAIN LINE CIRCUIT BREAKER AND GROUND FAULT CIRCUIT INTERRUPTER, BUILT INTO ONE PIECE CONSTRUCTION. SEE PAGE 10 FOR ADDITIONAL GFCI INFORMATION.

SLOSHING VALVE: EPA requires a device that captures fuel tank fumes (not allowing fumes to escape into the atmosphere) and direct them to the engine air cleaner. This valve is mounted on top of gen-set fuel tank, where excess gasoline fumes accumulate. Occasionally, when gen-set is transported, the fuel can “slosh” and actually enter into the air cleaner. This “sloshing” valve prevents the passage of fuel fluids while allowing vapors to proceed to the engine air cleaner. The valve is made of plastic and may be vulnerable to breakage in construction applications. The engine protective cover will help protect this valve from destruction.



SLOSHING VALVE



FUEL TANK “SLOSHING” VALVE INSTALLED

CAUTION: If fuel tank is filled completely full, beyond

the “full fuel line”, or if air vent hose is “kinked” shut, or if gen-set is operated on a severe slant, the fuel tank venting is stopped. Under this condition, the non-venting of fuel tank may cause internal pressures that can actually collapse the fuel tank, beyond repair.

FUEL VALVE: The generator fuel tank has an ON-OFF valve and filter screen system mounted underneath tank. Always keep this valve closed when the set is not in use, or in transit.

FUEL GAUGE: All models have fuel level indicator built into the extended run fuel tanks. You can always safely monitor fuel level on all tanks without cap removal.

FUEL CAP: Fuel cap should be opened only when refueling the tank. When replacing the cap, be sure to turn cap clockwise until cap locks in place.

OIL-GUARD: All models have protection against damage to engine resulting from low oil level. As the oil level falls below safe level, the engine automatically shuts down and the engine will not restart, until oil is added. Continually, check the oil level dip stick on engine, to avoid this situation.

6. LOAD APPLICATION:

Determine the total electric load before it is connected to generating set to prevent overloading. Always compare the generating set nameplate data with that of the equipment to be powered by the generator set to insure that watts, volts, amperage and frequency requirements are suitable for operating equipment. Generally, the wattage listed on the equipment nameplate is its rated output. However, some equipment may require three to ten times more wattage than its rating on the nameplate, as the wattage is influenced by the “plugged-in” equipment efficiency, power factor and starting system. **NOTE;** If wattage is not given on equipment nameplate, approximate wattage may be determined by multiplying nameplate voltage by nameplate amperage, as found on the “plugged in” equipment.

VOLTAGE X AMPERAGE = WATTS

When connecting a resistive load such as incandescent lights, heaters or common electric power tools, a capacity of up to the generating set full rated wattage output can be used. When connecting a fluorescent or mercury light, transformers, inductive coils, or electric motors a capacity of up to the generating set full rated wattage output, multiplied by 0.6 can be used.

CAUTION: Electric motors and electric motor driven equipment will draw much greater amperage for starting, than for running these motors. Follow the chart "A" for code G electric motors, but pay special attention to caution concerning the code L electric motors.

CAUTION: Code L Electric Motors, used on equipment such as air compressors, air conditioners, or submersible water pump motors require an extreme high amount of starting power, up to 6 or 8 times the motor name plate running amps. The gen-set wattage rating must be sized to the electric motor starting watts.

THREE PHASE: Some models are available with three phase power upon special request. The nameplate rating will always be shown as KVA (Kilo-Volt amps) rather than the watts for single phase. If three phase output (KVA) is not given on equipment nameplate, approximate output can be determined by multiplying volts X amps X sq. root of 3 X powerfactor, divided by 1000.

GROUND FAULT CIRCUIT INTERRUPTION: When certain adverse conditions exist, an electric shock potential is possible to the operator of all electric generator sets. It is recommended by the **NATIONAL ELECTRICAL CODE (NEC)** and **OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION (OSHA)** to utilize a device that will automatically disconnect the electric load from the electric power source when these health and the life threatening conditions exist. Your GPE model generator set has this protection located on each receptacle panel. See page 10 for details.

These GFCI protection devices should be tested for correct operation before each use. Test procedure with gen-set in operation: See page 10, Item Q for further information and operation details for GFCI shock and overload protection on all GPE model generators.

Article 305-6 of the National Electrical Code, 1990, states that ground fault protection for personnel on construction sites shall be provided for all 125 volt, 15 amp and 20 amp receptacles. **GILLETTE** generators are unique and exclusive by also protecting the 250 volt receptacles, as well. Gen-Pro portable generators provide this personnel electric shock protection by means of a "ground-fault circuit interrupter" (GFCI) and an overload circuit breaker in the same enclosure. This UL approved device meets OSHA and NEC requirements for the ultimate in electric shock prevention on job-site portable electric power appliances.

WARNING: GFCI protection should not be considered an all inclusive answer for total electrical shock protection, as all possible use conditions are too extensive to be considered.

WARNING: GFCI protection should not be used directly or indirectly with life support apparatus or associated circuitry.

CHART A FOR SINGLE PHASE MOTORS		
VOLTS X AMPS X 1.73 (SQ.-ROOT-OF-3) X P.F. / 1000=KVA		
ELEC. MOTOR HORSE POWER	CODE G ELECTRIC MOTORS	
	*STARTING WATTS	RUNNING WATTS
1/2	2000	1100
1	3800	1800
2	6000	2800
3	8000	4000
4	11000	5500
5	13000	6500

EXTENSION CORDS: When electric power is to be provided to various loads at some distance from generating set, extension cords are normally used. These cords should be sized to allow for distance in length and amperage so that the voltage drop between the set and point of use is held to a minimum. See Chart "B".

CAUTION: Plugged in equipment damage can result from low voltage due to small wire size in extension cord or too long in extension cord length.


CHART B					
AMPS AT 240 V.	LOAD IN WATTS	DROP CORD LENGTH IN FEET			
		#10 GA. CORD	#12 GA. CORD	#14 GA. CORD	#16 GA. CORD
10	2400	250	150	100	75
20	4800	125	75	50	25
30	7200	70	35	25	10
40	9600	50	15	10	*
50	12000	30	5	*	*
60	14400	15	*	*	*


DETERMINING ALTERNATOR LOAD REQUIREMENTS


✓	APPLIANCE	NOTES	RUNNING WATTS	TOTAL WATTS
	VCR	(1)	70	
	Light Bulb		1000	
	Radio		100	
	Television	(1)	100	
	Stereo	(1)	120	
	Fry Pan		150	
	Home Computer	(1)	150	
	Vacuum Cleaner		250	
	Attic Fan, 1/4 hp	(2)	400	


DETERMINING ALTERNATOR LOAD REQUIREMENTS (cont.)				
✓	APPLIANCE	NOTES	RUNNING WATTS	TOTAL WATTS
	Sump Pump, 1/3 hp	(2)	500	
	Refrigerator	(3)	600	
	Furnace Fan, 1/3 hp	(2)	600	
	Freezer	(3)	800	
	Jet Water Pump, 3/4 hp	(2)	900	
	Electric Stove Element		1000	
	Submersible Water Pump, 1hp	(4)	1000	
	Toaster		1000	
	Coffee Maker		1200	
	Dishwasher		1200	
	Hair Dryer		1200	
	Microwave Oven	(1)	1500	
	Submersible Water Pump, 2 hp	(4)	1600	
	Water heater		3000	
	Oven		4500	
	Air Compressor on 120V	(3) (4)	1800	
	Total Watts Checked			

NOTES: Explanation of notes 1, 2, 3, & 4

 Note (1): Make sure that generator produces no more than 10% harmful harmonic wave-form distortions or possible destruction of these loads may result. Whenever gen-set is in a service station, ask for a printout on generator produced sine wave. Your generator produces approximately 5-6% harmonic distortions

 Note (2): Hard-starting motors require starting watts of 3 to 4 times the rated running watts, due to the design of electric motor.

 Note (3): These loads may require up to 15 minutes to restart due to its normal build up of compressor head pressure.

 Note (4): These are extremely hard starting Code L electric motors and they require 6 to 8 times name plate running amps for total starting load.

NOTE: Consult dealer on extremely hard to start motor loads such as air conditioners and air compressors, and submersible water pumps.

7. BEFORE STARTING.

- A. Disconnect all electrical loads.
- B. Make sure the generating set is positioned on firm level surface.
- C. Check the lubricating oil and maintain to proper level. **CAUTION:** Never start engine when oil level is below normal level or when oil fill cap is off.
- D. Check fuel level and fill tank. Tank should be 3/4

full with clean fresh unleaded automotive gasoline. Never fill fuel tank completely to the top. Always wipe up and remove any spilled gasoline. Gasoline soaked rags must be disposed of in flame proof containers.

E. Make sure that exhaust is directed to outside area void of people, or animals.

F. All generator control panels are equipped with automatic GFCI (Ground Fault Circuit Interrupter) stop feature. If a ground fault exists (potential electric shock hazard), all receptacles will not produce power. Notice, the test push button and (2) test lights (See Note 2 and 3) on the circuit breaker module, as pictured on page 10.

8. STARTING.

A. Open the On-Off fuel valve underneath the fuel tank.

B. Close the manual choke. Adjust this choke according to engine manual, for best operating conditions. When the engine is already warm or it is a warm day, you may only have to close the choke half way, or not at all.

C. Move engine start-stop switch to start position. This switch is almost always mounted on the engine, and it can be a toggle switch, a rotary switch, a key switch, or a stop-start switch.

D. Firmly grasp the starting rope handle and slowly pull it out. The resistance becomes hardest at a certain point corresponding to the engine compression point. Let the rope rewind itself from this point, then pull sharply. Repeat process if engine fails to start. **CAUTION:** Do not pull the rope all the way to the end. Do not release the rope handle after pulling. While still holding on, allow the rope and handle to rewind slowly into its housing.

CAUTION: It is possible to cause arm and back injury if starting rope is pulled in a reckless or hazardous manner.

E. When the engine starts, open the choke slowly. **CAUTION:** Allow generating set to run at no load for five (5) minutes upon initial start-up to permit engine and generator to warm up and stabilize.

F. Check the generating set for abnormal noises or burn smells. If OK, connect the load to the generating set. **CAUTION:** Do not apply full heavy electrical load during the first three (3) hours on your brand new set. Allow the engine to have its normal

break-in time.

9. STOPPING.

- A. Remove all loads from generating set.
- B. Continue to run the engine at no load for three to five minutes so that the engine may cool down under no load.
- C. Stop the engine by depressing or switching start-stop switch to "stop". The switch may be found on the receptacle panel or on the engine.
- D. Do not leave the generating set until it has completely stopped. Engine and muffler will remain hot for several hours after set is stopped. Severe burns remain as potential injury hazard.
- E. After engine is stopped, close the fuel on-off valve (under fuel tank) and secure set.



WARNING STAND-BY INSTALLATION



This manufacturer does not recommend the use of a portable generator set as a means of obtaining emergency standby power for residential use. Too many accidents resulting in loss of property and loss of life, due to constant re-filling of gasoline fuel into a constant running portable generator during any type electric power loss or a potential of breathing toxic exhaust fumes which may cause a loss of life. A better method is to use a self contained standby generator set installed into a full weather protected housing and fueled with a more safe, LPG or Natural Gas fuel. See our 12 KW and 18 KW self contained standby gen-sets, specifically designed for standby use.

YOUR GENERATING SET MAY HAVE ONE OR MORE OF THE FOLLOWING OPTIONAL ITEMS;

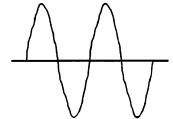
- A. Three Phase Output available on certain models. The rating is always shown in KVA (Kilo-Volt-Amp) and power take-off can be through terminal strip or four wire twist-lock receptacle.
- B. Spark Arrestor Screen for certain engines only. This USDA approved muffler screen will stop sparks from leaving muffler and can be attached at any time.
CAUTION: This screen must be cleaned of carbon particles every 50 hours of operation.
- C. Part number "G1" is a Two Wheel Dolly and is in knock-down kit form. It can be assembled in minutes with the use of normal tools and will fit 5 KW through 15 KW

D. Part number "G2" is a crane pick-up lifting bracket mounted on each end of carry roll cage. User must furnish lifting chain and appropriate hooks, for lifting gen-set.

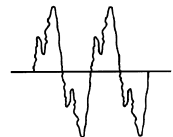
"Kleen-Power" is a major and exclusive design of your generator set. In the past, much attention was given to generator features such as voltage regulation or maintenance free "brushless" generators. However, no consideration was given to the most important electric power feature, "the wave-form". Electric current is measured in hertz, the international unit of frequency, and it equals 60 cycles per second. A single cycle is called a wave-form and is graphically displayed to show how clean, or distortion free, electric power can be.

CAUTION: Always make sure that the emergency electric power source produces no more than 10% harmful harmonic wave-form distortions or possible load damage (All electrical loads: computers, TV, stereo, etc.) will result.

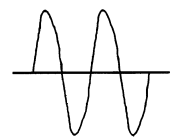
A typical commercial power wave-form looks like this: with wave-form distortion of 3% to 5% and is safe for all electric loads.



A typical generator set wave-form looks like this: with wave-form distortion of 25% to 35% and is not safe for any voltage sensitive loads.



Your Gillette generator with "Kleen-Power" has a wave-form like this: with wave-form distortion of 6% to 7% and is safe for all plugged-in electric loads.



F. **LOW OIL SHUT DOWN PROTECTION.** All sets have this feature and if oil level falls below safe level, the engine will shutdown and will not start until proper oil level is restored.



Starting battery for electric start generator sets will be furnished by user. These starting batteries vary in size and power output. Consult the chart information found on battery base as attached to each gen-set electric start for correct size battery for your set. Most batteries are wet charged and ready to use; but you may find a battery that is dry charged and must have electrolyte acid installed.

CAUTION: If battery acid is ever required, battery

must be brought to a full charge by commercial battery charger for 24 hours. Use extreme caution when handling the batteries. Battery acid is extremely dangerous and can cause severe burns to the eyes, skin, and clothing. Flush contaminated areas immediately with water, then call your doctor.

All electric start engines include a built-in battery charger which operates automatically when the engine runs. Provisions must be made to keep battery fully charged if the engine will not be run frequently as in the case of a long winter storage period. This can be accomplished by a small commercial battery charger connected to battery and plugged into normal power.

CAUTION: Overcharging the battery will cause battery damage. Always use an automatically regulated charger so that as battery becomes charged, the rate of charge is automatically reduced to a maintaining “trickle” charge. Check battery cells with a hydrometer. The specific gravity of each cell should be 1.280 at 75 F. If cells are low, add distilled water and recharge battery. Keep battery and battery terminals clean and dry. Terminals should have light grease or petroleum jelly applied to retard corrosion.

Disconnection or connection of battery terminals while engine is running will cause violent spark and may result in explosion. Never smoke or use open flame near battery. The area of battery use must be well ventilated because batteries give off a poisonous and explosive gas when being charged.

G. Each extended run fuel tank has a separate on/off fuel valve underneath tank. Always shut this valve off when generator is not in use or in transit.

H. 50 Hertz winding is special; usually for generating sets to be sent to foreign lands. The operating speed is reduced to 3000 RPM and normal wattage rating is reduced by 15% to accommodate this winding.



SAFETY IN REVIEW:



A. Guard yourself against electric shock; avoid personal contact with live terminals, wires and receptacles. The electric output voltage in your generator can produce a fatal shock.

B. Always use approved 3-prong (or 4-prong) grounded plugs and 3-wire or 4-wire cords.

C. The generator must be properly grounded. There is a labeled ground lug on each set for connection to

user furnished #8 copper wire attached to suitable ground to earth, by metal rod, driven at least 6” into earth.

D. Operation of this set in an enclosed compartment of a recreational motor home, of other types of vehicle compartment, enclosed space or poorly ventilated area, is not recommended and will cause a potential fire hazard and/or personal health or death hazard to animals and humans by poisonous engine exhaust and fuel fumes.

E. Gasoline and other fuels will always present a hazard of explosion or fire. Keep correct type fire extinguisher close by generating set, and consult local fire department on handling and storage of dangerous fuels.

F. California proposition 65 warning: This is a warning to user that all exhaust fumes from this engine contain chemicals known to cause cancer, birth defects, or other reproductive harm. Do Not Breathe poisonous engine exhaust fumes.

G. Battery acid can produce skin, eye, and clothing damage. Batteries emit a hydrogen gas when being charged. This gas is poisonous and highly explosive. Use extreme caution when handling batteries.

H. Battery has electrolyte acid that can cause severe burns to the body. Upon bodily contact with this dangerous acid, wash contact areas with water and seek immediate medical care.

I. User must supply battery for energizing engine electric starter motor. Be sure battery connections are of correct polarity. All electric start engines use negative ground, 12 V DC battery with minimum size of 45 amp-hour rating, or minimum 230 cold cranking amp size, 8 HP through 28 HP gasoline engines. All diesel engines should have minimum 35 amp-hour or 300 cold cranking amp size battery. When connecting or disconnecting battery cables, engine must not be running or cranking.

J. Always shut the engine down completely before filling engine fuel tank. **Never try to fill fuel tank while engine is in operation, or when viewing conditions are limited. Only fill tank to 3/4 full. Never fill fuel tank to full level.**

K. Before transporting generator in vehicle, drain or run out all fuel. This prevents possible fuel leakage thru a “sloshing” event due to mobile vibrations.

L. Engine should be refueled in a well lighted area. Avoid fuel spills. Do not operate generator set where fuel spills have occurred until all excess fuel is cleaned up and removed. Dispose of gasoline soaked rags by storing in an approved fire proof container. Avoid refueling near open flames, sparking electric devices, power tools, other high heat conditions or while the set is running.

M. Good ventilation is mandatory for safe generator operation. Avoid areas when fuel vapors and exhaust gases can be trapped: basements, boat bilges, compartments, garages, etc. Proper air flow and temperatures are important for safe operation of air-cooled sets. Never operate generator set when temperature exceeds 110° F or below -10° F.

N. Muffler and air cleaner should always be installed and in good condition. They act as a flame arrestor if engine backfiring occurs.

O. A spark arrestor muffler must be used when gen-set is operated around or near flammable materials such as farm crops, grain dust, forests, brush, dry grass, and other similar flammable items to help prevent fires caused by potentially hot engine carbon sparks exiting through muffler. California statutes #134005(6), 442, and 443 legally require the use of this item on all portable gen-sets. It is required on all U.S. Forest Service lands and may also be required by various other states' statutes and ordinances.

P. The gasoline container, used to fill generator fuel tank, must be an approved tank for this application. Always use a small container, not over three (3) gallon capacity. Make sure the container is vented. Open the vent and the pour nozzle while the gasoline container is on the ground. Proceed to fill generator mounted fuel tank while engine is stopped. Avoid carrying opened gas tank over three (3) feet in length while attempting to fill generator mounted fuel tank. Do not drop gasoline refill tank. Do not try to refill gasoline tanks when temperature exceeds 110° F/40° C or when generator is running. Follow all recommendations from gasoline tank manufacturer or from your local fire department in the use of their product.

Q. All generator control panels are equipped with automatic GFCI (Ground Fault Circuit Interrupter) stop feature. If a ground fault exists (potential electric shock hazard), all receptacles will not produce power. Notice, the test push button (See #4) and (2) test lights (See #2 and #3) on the circuit breaker module, as pictured, on right side of this page. It is suggested that before each generator use, these five (5) test procedures are performed, for safety precautions.



1. On/off test switch plus combination ground fault circuit interrupter and load circuit breaker. The amperage size designation of circuit breaker is located in middle of rocker switch.
2. "Green" Power LED.
3. "Red" Leakage Fault LED.
4. "Test" Push Button.

NOTE: "Five (5) Safety Test Procedures" as shown below, are listed on separate instruction panel, adjacent to generator receptacle panel, for user convenience.

FIVE (5) SAFETY TEST PROCEDURES FOR SAFE GENERATOR OPERATION

- When generator is not running, turn "off", the **GFCI** breaker actuator. Turn on the generator (start the engine). The green "power" LED, #2, should be flashing and red "leakage fault" LED, #3, should be "off".
- Turn "on" the **GFCI** actuator and green "power" LED, #2, should show steady illumination while the red "leakage fault" LED, #3, remains off.
- Depress "test" button, #4, and actuator turns "off" while red "leakage fault" LED, #3, turns "on" with steady illumination. Green LED, #2, light goes from "on" to "off". This action shows proper operation for simulating a tripped breaker.
- Turn **GFCI** actuator, #1, to "on" position and red "leakage fault" LED, #3, turns "off" while green "power" LED, #2, turns "on".
- This test should be performed upon each start-up of generator set.

R. Always read engine manual thoroughly before initial start of your new gen-set. The engine is not considered broke-in until 25-35 hours run time has passed.

S. High altitude and high temperatures create a negative effect on engines and can severely reduce engine horse power, therefore reducing electric power output.

T. Clean, high octane lead free fuel is always recommended to develop peak horsepower in small engines. Never use old, stale fuel, or leaded fuel.

U. All **GILLETTE** gen-sets comply to existing EPA regulations for minimum toxic exhaust fumes and fire regulations.













V. Consult with licensed electrician on proper grounding procedures as outlined in National Electric

Code (NEC) article 250-5.

W. All generators have been factory load tested. All engines are “green” and have not had the (50) hour break in time to develop peak horsepower. Engine horsepower ratings meet SAE-J1349 test codes which specify reduced ratings of 3 1/2% for each 1000 feet over 328 feet above sea level and 1% reduced rating for every 10°F (5.56°C) rise above 77° F (25°C).

WARNING
A QUICK REVIEW OF SAFE OPERATING RULES AND CONDITIONS

When draining or adding fuel to generator:

-  1) Turn gen-set OFF. Allow the engine and fuel tank to cool down for minimum of 5 minutes. Remove fuel tank refill cap slowly, to relieve any pressure that may be inside tank
-  2) Always drain or fill fuel tank outdoors, away from any combustible elements.
-  3) Do not start engine, if a fuel spill occurs. Clean up spills with rags and dispose in fire proof container. Do not start engine until all remaining fuels have completely evaporated.
-  4) Keep generator fuel tank and refill fuel tank, away from sparks, open flames, pilot lights, excess heat, and other possible ignitions sources. Do not light a cigar, cigarette, or smoke within 50 feet of gen-set or stored refill fuel tanks.
-  Keep gen-set as level as possible to prevent fuel leakage.
-  Use a GFCI (ground fault interrupter) in an damp or highly conductive area, such as all metal surfaces.
NOTE: GILLETTE furnishes GFCI protection on all gen-set receptacles.
-  Do not operate gen-set during rain or snow , or any wet environment.
-  Do not use electrical cords or electrical devices that are frayed, worn, bare, or damaged electrical apparatus, due to possible shock.
-  Do not handle plugged-in tools or cords, while barefoot or hands and feet are wet.
-  Do not operate gen-set inside buildings, on top of building roofs, or any areas within 50 feet of any structures. Use appropriate gauge drop cords at site of use, to keep gen-set a safe distance away.
-  This gen-set is shipped from factory without any proper engine oil before starting engine, check the engine dip stick for oil level. Check separate engine manual for additional oil tips and engine maintenance and operation.
-  **CAUTION:** This generator operating manual and the separate engine operating manual can not possibly address all potential operating conditions. If there is any possible remaining operational questions, please call GILLETTE GENERATORS, toll free 866-537-4388, and ask for “Engineering Department”, where all questions will be promptly answered.

Thank you for purchasing this **GILLETTE GENERATOR**. It has been designed to yield years of trouble free service, even in the most abusive conditions. If you have any further questions, please

call, write, or fax us, attention: Service Department.
Phone: 574-264-9639
Fax: 574-262-1840
E-Mail: sales@gillettegenerators.com

GILLETTE LIMITED WARRANTY FOR GILLETTE PORTABLE GENERATORS

The Gillette Generator is designed around the latest technology, manufactured and quality inspected by carefully trained and experienced craftspeople. Gillette warrants to the original end user, for the time periods as shown below, that each generator finished product is free from defects in materials and workmanship. Gillette, at its option, will repair, replace, or offer appropriate adjustments, for any generator part that, upon examination and testing by Gillette's factory engineers or by a Gillette authorized service dealer, is found to be defective, when generator set is properly operated and maintained, according to Gillette's instructions. All transportation costs for parts returned to the factory, and new parts sent back to end user, are to be borne and paid by the end user. This warranty is for the original owner and is not transferable and does not apply to malfunctions caused by damages, unreasonable use, misuse, unauthorized repair persons, or normal wear and tear. All warranty cost allowances must be within limits as shown in "Gillette Warranty Policies", procedures and flat rate manual.

GILLETTE PRODUCT

Portable Gen-Sets.....
(Warranty is void in prime power applications)

WARRANTY TIME PERIOD

(2) Years or 1000 hours (whichever occurs first), from date of manufacture.
Portables: First year covers parts and labor.
Second year covers rotor and stator only.

THIS WARRANTY SHALL NOT APPLY TO (AND NOT LIMITED TO) THE FOLLOWING:

- Normal engine wear, tune-ups, service parts, including batteries, fuses, and engine fluids.
- Generators in trailer mounted use.
- Original installation or start-up costs.
- Damage due to insect or rodent infestation.
- Gen-sets that are altered from original design.
- Failures beyond manufacturers control: Riots, wars, theft, fire, freezing, lightening, earthquake, windstorm, hail, flood, hurricane, and all other external causes and Acts of God.
- Any incidental, consequential, or indirect damages, caused by manufacturers defects, or any delay in repair or replacement of defect.
- Costs due to trouble shooting by repair person, where no defect is found.
- Costs for equipment (cranes, hoist, trucks) for removal or re-installation of gen-set.
- Adjustments to fuel systems or governor systems at time of start-up, or anytime thereafter.
- Diesel engine damage due to constant light loads (wet stacking).
- Travel expense on any portable generators.
- Any labor time that is deemed excessive, by factory.
- Overtime labor and overnight freight costs.
- Steel enclosures, and all other deterioration of parts, installed within 150 miles of saltwater contaminants.
- Failures due, but not limited to, normal wear, misuse, negligence, or faulty installations.
- Travel or labor expenses and all other costs, incurred while investigating performance complaints.
- Warranties of associated equipment, not of Gillette manufacture (switches & engines) are subject to the individual manufacturers assigned warranties.
- Failure to use and exercise gen-set over 6 months of time.
- Parts installed from sources other than engine or generator manufacturer.
- Manufacturer is not responsible for loose connections caused by vibrations during shipment to destination. All connections must be checked during start-up.
- All shipments are F.O.B. factory, consigned to the transit carrier. All shipping damage repairs, are between carrier and receiver.
- Any associated costs for replacing components, found to be defective.
- Rental costs of equipment during any warranty procedures.

Any implied or statutory warranty, including any other warranty as to the merchant ability or fitness for a particular purpose or use, is expressly limited to the duration of this warranty. Some states do not allow limitations on how long an implied warranty may last, or the exclusion or limitation of incidental or consequential damages, so the above listing of limitations or exclusions, may not apply to you.

This is our written limited warranty and we make no other expressed warranty. No other identity is authorized to make any different or additional warranties on Gillette's behalf. This Gillette warranty gives you specific rights. You may have additional rights that may vary from state to state.

GILLETTE GENERATORS, INC.
1340 WADE DRIVE • ELKHART, IN 46514

WARRANTY SERVICE PH: 866-537-4388
WARRANTY SERVICE FAX: 574-262-1840
WEBSITE: www.gillettegenerators.com

FRM-WAR1010 June 26, 2012

COPY YOUR MODEL AND SERIAL NUMBER HERE, FOR QUICK REFERENCE:

MODEL NO.: _____ SERIAL NO.: _____ DATE: _____

SELLING DEALER: _____ PHONE NO.: _____

GILLETTE GENERATORS ... in portable, stationary and standby- powerplant packages.

GILLETTE GENERATORS, INC. — 1340 WADE DRIVE · ELKHART, INDIANA 46514 · TEL: (574) 264-9639 · FAX: (574) 262-1840
VISIT OUR INTERNET SITE AT: <http://www.gillettegenerators.com> · E-MAIL: sales@gillettegenerators.com