
1. GILLETTE GENERATORS, INC. has been in existence since 1955 and under present ownership for the last 31 years. During this period of time, Gillette has been able to introduce many new innovations to the marketplace. Notable items include:

a) Revolving field generator design, allowing load currents to be generated from the stationary (stator) windings and to be connected directly to the output receptacles. During this design introduction, it was commonplace for the competition to produce a generator which caused the load currents to be generated on a rotating part (armature), connected then to brushes, slip rings, and eventually connected to the output receptacles. Today, there are still two USA manufacturers producing this old style revolving armature design, which has proven to be a very inefficient and outdated device. Friction method (slip rings and brushes) cannot match the efficiencies of the direct connected revolving field design, in the transfer of generated power to the receptacles.

b) Gillette has the largest stator lamination in the world (8-3/4" dia.) compared to other 2-pole 3600 RPM portable electric power plants. This large diameter allows more "back iron" (the amount of electrical grade steel that provides magnetic circuit path for the copper field coils) which insures our sets to start more induction loads (electric motors) than any other power plant. Many popular consumer type generators have 6-1/2" to 7" diameter stators which make them very adaptable to power resistive loads (heater, lights, universal motors, etc.); but they cannot match the starting power of Gillette for loads such as electric motors, transformers, lighting ballasts for quartz lights, etc. Simply put, we provide more path from North Pole to South Pole (2 pole machine) for the magnetic lines of force to use thereby providing cooler operation and more "muscle" to start motors.

c) Insulation System: Copper coils are double enamel coated providing a burn-out proof protection. Our magnetic copper wire is designed to function at up to 200°C (392°F) without failure. Slot insulation, our unique 100% resin baking varnish, and lead wires are designed to function properly at 180°C (366°F). Compare these materials and their operating temperatures to our power plant that will see normal outdoor temperatures of 75°F ambient plus the generator interior operating temperature of 95°F. (Total 170°F). You now have a Gillette power plant that cannot be burned out by any normal connected load.

d) Rectifiers (Diodes): Normal practice with all portable power plant manufacturers is to use rectifiers with values no greater than 600-1000 volts and 12 amps. These rectifiers convert A-C to D-C for energizing the rotor winding, and they work fine when electric plant is used properly. If the power plant is overloaded by an oversized electric motor load (and all operators eventually do this), there is an excellent chance that one or both rectifiers will fail due to the tremendous voltage "spike" set up by the back EMF (Electro-Motive-Force) during starting or stopping of this motor overload. Other methods of sure rectifier failure are: Direct short circuit loads; quick reversal of a reversing drill before it has had a chance to come to a complete stop; the introduction of commercial power to the circuit while generator is still running, or any other transient voltage "spike" producing action.

We solved these problems of diode failures by our exclusive circuitry design and over-rating the rectifiers to 3200 volts at 25 amps. It is virtually impossible to destroy the rectifiers in GILLETTE power plants. For this reason, we warrant our rectifiers for life.

e) Lead wire connections to copper field wires: All portable power plant manufacturers have a production system of crimp connecting the copper wire to the flexible lead wire that eventually connects to receptacle outlet. This metal crimp must penetrate the enamel insulation on copper wire; thereby making a good electrical connection. Often this method provides a high resistance partial connection, still allowing an electrical joint, but not to allow full potential of power plant kilowatt output. Gillette insures complete and positive connections by removing all enamel insulation from each copper wire. Bare copper will insure a good crimp bond with a flexible lead wire. It's virtually impossible to allow a high resistance connection to interfere with the full capacity of your GILLETTE generator and result in a failed operation of less performance.

f) Ball Bearing: Some portable power plant manufacturers use a bronze sleeve bearing; some use a needle bearing, and some use a special nylon bearing. Gillette uses a double ball bearing size #77203. This is the most common ball bearing made. It is available at any bearing supplier or electric motor repair shop. We supply an extra quality ball bearing because ours has a neoprene seal between the stationary and rotating parts.

This seal will not allow dirt, water, chemicals, or other contaminants to enter the ball bearing interior, thus causing a longer lasting bearing life.

g) Quality Control: All reputable manufacturers of power plants utilize method of quality control during the manufacturing process. Gillette takes the initiative in providing additional quality control procedures as described as follows:

1. All windings are tested for resistance values with an ohmmeter that will read 1/10 of an ohm. This will reveal even one turn more or less than the exact desired turns of copper wire in the field winding. We ensure optimum power plant performance with the designed field being exact. All windings receive a high voltage potential test between the copper coils and mechanical ground of 2500 volts D-C.

Any weakness of slot insulation (special insulating paper that protects copper wires from contact with metal part of stator and rotor) will be detected by this test. We insure that defective insulation cannot be permitted in final product.

All assembled power plants receive a running test whereby full electrical load is applied to each set. A factory certified and operator signed test report (Hang Tag) showing no load output voltage and full load output voltage is attached to each power plant. This assures you that our sets have been factory tested as a single component. This Hang Tag shows the result of this test.

2. This has explained our innovations of the past. Present production of Gillette electric power plants proves to have even more exciting features.

Gillette has invested in the future of portable power plants with 1-1/2 years engineering program into the development of the brushless design. We call this our "POWER-ASSIST" technology. This brushless concept is exclusive with Gillette in sizes 2.5 KW through 14 KW.

This design offers you three outstanding benefits not found in any brush type alternator available today.

a) Virtually maintenance free. There are no brushes to replace due to worn or sticking brushes in brush holder. There is no slip ring to true-up in a machinist lathe due to grooves of the riding brushes. There are no graphite and carbon wastes distributed over copper field coils (which attack and destroy the insulation system), due to worn brushes.

b) Very close voltage regulation of plus or minus 5% from no load voltage to full load voltage with our CLC (capacitor load compensated), brushless design. All brush type power plants yield 6% through 15% voltage regulation unless external means of voltage regulators are employed.

c) Unequaled electric motor starting capacity. Due to the "POWER-ASSIST" brushless winding technology, this exclusive system automatically senses the increased demand of the electric motor load and actually provides an assist of extra power to the magnetic field by compounding the winding (increasing the voltage output when load is increased) thereby maintaining voltage output almost as stable as commercial power. Gillette is so confident of the power of this design that we guarantee to start 25% more electric motor load than any brush type power plant of equal size and KW rating.

3. More features and their benefits:

- a) All gen-sets have main line circuit breakers protecting power windings.
 - b) All rotors are dynamically balanced to precision tolerances so that vibration is virtually eliminated at the high engine speed of 3600 RPM.
 - c) Balanced load windings on all GILLETTE gen-sets. It is impossible to have an unbalanced electric load applied to the generator thereby eliminating this cause of severe chatter and vibration.
 - d) Low oil shut-down protection is standard on all Gillette Generators.
 - e) Cast-in iron cylinder liners, super quiet mufflers, special hardened exhaust valves, two element heavy duty air cleaners, and overhead valve design engine complying to EPA and C.A.R.B. pollutant emission levels are all common place with Gillette generators.
 - f) Universal repair parts are designed for interchangeable use. All capacitors, diodes, bearings, and other such replaceable items are the same parts for all sets. This commonality of repair parts throughout all generator sets allows for simplicity, low parts inventory, and easy, simple parts identification.
 - g) Engine horsepower ratings are based on SAE J1349 test codes which reduce ratings for 3-1/2% for each 1000 feet over 328 feet above sea level, and 1% for every 1% for every 10°F (5.56°C) rise, above 77°F (25°C).
 - h) Generator rating system allows maximum wattage rating to be developed from cold, ambient temperature of 70°F (24°C) for approximately 30-45 minutes; at which time, maximum internal operating temperature is achieved and continuous wattage rating is produced.
 - i) Our newest generator innovation is the GILLETTE exclusive "KLEEN-POWER" design. Many generators of today's design will produce approximately 20 - 40% harmful harmonic distortions to its generated wave-form (a method to measure the purity of electric power). This much distortion creates "Dirty Power" and can damage or destroy plugged in electric loads such as microprocessor based electric controls, VCR's, UPS systems, amplifiers, and other such voltage sensitive equipment that demands less than 10% harmonic wave-form distortions.
- GILLETTE GENERATORS produce no more than an average 6% distortion of its generated wave-form. This compares favorably with the national 3-4% wave-form distortion of normal commercial grade power and makes both sources safe to use with any voltage sensitive electric loads.

OUR MISSION

Our customer is our greatest asset

Gillette is determined to build and deliver world class products and services, at a level that exceeds customer expectations. Also, our customer service satisfaction shall always be deemed grater in value than our price of product.