Power Generating Device

Report on electrical analysis of power generating device as it was demonstrated by it's inventor Joe Shepard at the Monolithic Dome Institute in Italy, Texas Thursday July 19th 2012.

Instrumentation and equipment :
Meters used, Fluke Model 79 III True RMS Multimeter, and GW Model GDM-8145 Digital Multimeter. All test leads were 18 Ga. fine strand rubber insulated test prod wire, dielectric rated to 5KV. All test lead wires were new and previously unused. Wire ends, clips, and plugs, were soldered on with no crimped connections. Calibration of meters last performed December 13, 2011. Recalibration due December 13, 2012. Annual calibration is performed by a certified outside lab and is traceable to the United States National Bureau of Standards. Both meters are precise to four digits.

A simultaneous comparative test of the two meters were made the previous day to a calibrated meter with a precision of five digits. AC, DC, Volts, and Amps scales were compared. No variation from the five digit meter greater than plus or minus one integer of the least significant digit was found.

The public demonstration :
The generator was an open frame device (no enclosure, all parts open to full view). Joe Shepard told me that,to reduce cost, the square shaped core of the stator in this prototype generator was made of laminated, cold rolled steel, and that building it with silicon alloy electrical steel would allow a higher efficiency.

Joe said it weighed about 80 pounds. It was positioned in the center of a wooden folding table with steel legs . The weight of the generator was bolstered by a wooden 2x4 directly beneath it between the bottom of the table and the floor.

The generator shaft had a larger sheave (or pulley) and was connected by a single, green cloth bound utility belt to a smaller sheave (4 to 1 ratio) on a Dayton, 1/2 horsepower, 115 Volt, 7.6 Amp, single phase, fan duty induction motor. The motor had no running capacitor. Dayton rates this motor at 40% efficiency under optimal conditions.

Power for the motor was supplied from a standard, grounded, 120 Volt wall outlet, through a long orange extension cord which was coiled on the floor next to the table. A three prong, grounded, black power cord ran from the single outlet on the orange cord to spade terminals on the input of the motor. The safety ground wire was connected to the body of the motor. The black power cord appeared to be about 18 ga. wire. A newly purchased, clamp meter was placed around one of the motor leads to measure current on the input of the motor.

Electricity from the generator was rectified at the generator output, and connected by a long wire to another table across the room where it was then filtered and fed to an electronic power converter. The output of the power converter was wired directly into the electrical service panel on the wall and fed back into the power grid. When operating, the motor pulled 13.25 Amps and the digital meter built in to the power converter indicated 450 Watts being fed to the grid.

The test :			
The same motor, and power connections as described above, which had been used previously in the public demonstration was connected to power and allowed to run with no load (belt removed). All the motor input voltage readings were measured at the spade terminals on the motor. These are the input power measurements:			
Motor, no load:			
	input voltage:	96.2 Volts A.C. RMS	
	input current:	6.87 Amps A.C. RMS	
The same as above, with the same belt and sheaves, but now with the belt turning the generator, and the generator having no electrical load:			
Motor turning generator with no electrical load:			
	input voltage:	92.9 Volts A.C. RMS	
	input current:	7.0 Amps A.C. RMS	
The A.C. power from the generator output was rectified, and connected directly without filtering or regulation to two 200 Watt bulbs in series as a load. Here is the raw data as measured:			
Motor (A.C. RMS)		Generator (unfiltered D.C.)	
	input voltage: 75 Volts		output Voltage: 181 Volts
	input current: 11.7 Amps		output current: 2.10 Amps
	input power: 878 Watts		output power: 380 Watts

Observations:
During the test, the motor was running with 75 volts on it and under a load for right at two minutes while the the readings were being taken. The motor was becoming increasingly hot to the touch. The power cord to the motor was getting warm as well. No part of the generator was producing any manually discernible heat.

After testing, the table was cleared of heavy objects and moved. There were NO hidden wires running up the table legs or the supporting wooden 2x4. Nothing had been concealed under the table and there were no holes in the table top or the carpeted concrete floor beneath the table.

Joe Shepard calls his device a generator. In conventional terms, a generator is a device which produces direct current by drawing power from a rotating armature by some means of commutation. An alternator produces alternating current from its field or stator which, then, may be rectified to produce direct current. Joe Shepard's device functions more like an alternator than a generator in that power is derived from the stator windings. The distinct difference being that that there are 16 poles in the rotor and 34 poles in the stator. The number of poles (16, N50 neodymium magnets) in the rotor never line up directly at any one moment with the number of poles (34 coils) in the stator. His patent states that this is done to eliminate cogging.

We know that when induction motors, like the one in this test, are operated under a load and well below their rated voltage, they will run below their nominal operating speed. This produces excessive Phase slip in the motor which increases input current, as was seen here, and significantly decreases motor efficiency. The lower motor efficiency causes the motor to heat excessively as was observed in this test.

Dayton says this motor should pull 7.6 Amps at 115 Volts.That is 874 Watts with a 1/2 hp load under nominal conditions. This test shows the motor consuming 878 Watts. Less than 1/2 of 1% difference in input power over nominal conditions. Where is it getting enough energy to overheat? Most of the energy to overheat the motor is coming at the expense of its own output power.

We know that this motor must be developing significantly less than 1/2 hp on its shaft. That is a power output significantly less than 373 Watts. The belt and sheaves introduce some additional loss of power, and yet, we still see 380 watts of power on the output of the generator.

About the “Technician/Author”:
“Technician/Author” graduated from the Schweiter Technical School and Butler County College in 1979 with an Associate of Applied Science Degree in Engineering Technology with a major in Electronics Technology.

He is a patented inventor, and has designed avionics systems for Cessna Aircraft, Taught electronic assembly classes for NCR, Worked as a schematics illustrator for Instrument Flight Research. Worked for Western Electric, AT&T testing the No. 5 electronic switching System and power systems. Has earned both amateur and commercial FCC radio operator licenses. Has tested and calibrated FM broadcast equipment for Continental Electronics. Designed and maintained electrical systems for the McKinney Ave. Transit Authority in Dallas.

Currently he designs test sets for and performs tests on electronic equipment used in aviation and aerospace, mass transit systems, nuclear reactors, clean rooms, LED lighting systems, and high voltage equipment.

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