B.M.G. Brushless Motor Generator

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Electric motors convert electrical energy into mechanical energy. The main problem with these motors is that they draw a significant amount of power with no output; all the electrical energy consumed within the motor is wasted. There is currently no electric motor on the market that is able to address this problem without additional componentry. The Brushless Motor Generator is unique as it consists of a motor and generator within the one unit. With the addition of an incorporated generator, the Brushless Motor Generator is able to harvest a portion of the wasted energy and convert it back into electricity, thus reducing the energy consumption of the motor. This is achieved by the application of Faraday's Law of Magnetic Induction. Put simply, a current is generated whenever a coil of copper wire experiences a change in magnetic field. Following this principle, the Brushless Motor Generator's concept is not just limited to brushless motors, but instead all electric motor types, as they all function by changes in magnetic fields. The Brushless Motor Generator would have the largest impact in the industries of mining and transportation, which use diesel-electric transmission. Generating reusable power would not only reduce fuel consumption, but also save companies millions of dollars. All the components of the Brushless Motor Generator were handmade and machined using a lathe, except the stator as it was too complicated to self-manufacture. The results recorded demonstrate that the Brushless Motor Generator is a viable solution in improving the energy consumption of electric motors.

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