

THE GEMINI ELECTRIC MOTOR TECHNOLOGY

by John Patrick Ettridge with
Tim Harwood, MA © 2004

Electric motor technology has remained surprisingly static over the last 50 years. While there are a number of good reasons for conservatism in any design process, perhaps the most significant point is that it is only relatively recently that permanent magnets have become cheap enough, and rugged enough, to be appropriate for motor design.

Up until the 1940s it was still customary to use electromagnets, as permanent magnets were not considered suitable for the demands of commercial applications. And it took even longer for magnets to be made available for low-cost private experimentation. The result was an industry that became surprisingly fixed in its ways: innovation could only come from the outside.

While switched reluctance motors have found increasing popularity in recent years as the advantage of high efficiency becomes more widely appreciated, the traditional prejudice of motor designers

against permanent magnets means this area of switched reluctance research is still relatively unexplored.

John Ettridge is an inventor who has invested the time required to pursue permanent-magnet-based switched reluctance designs. His research began out of frustration with conventional designs—which it seemed to him were grossly inefficient, difficult to repair and unimaginative.

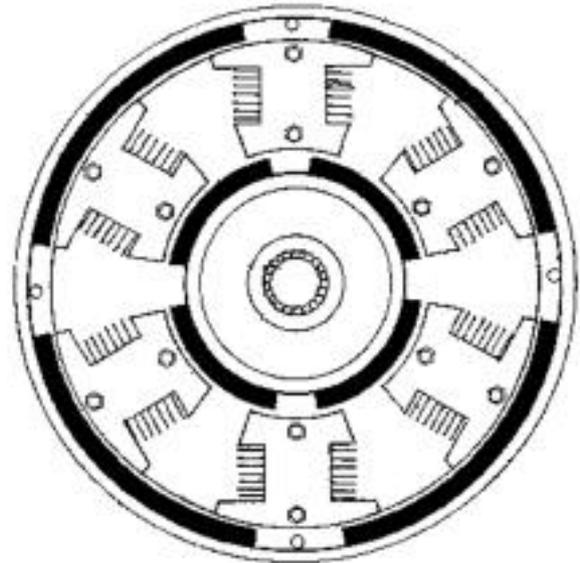
Design of the Gemini Motor

Figure 1 is taken directly from the Ettridge patent and illustrates the layout pursued in the early stages of research. Subsequently a variety of alternative geometrical layouts were developed, optimised for specific applications and load scenarios.

When the six coils are aligned with the permanent magnets, an input pulse is provided to the apparatus that manifests a repulsion effect, pushing the stators away from the permanent magnets. The input voltage will determine the characteristics of the recession. The higher the input voltage, the greater the resultant mechanical force manifested.

While the use of permanent magnets in such a manner is innovative, the Ettridge technology features further levels of design optimisation. Figure 2 illustrates how the

Figure 2



conventional T-shaped stator can be replaced with an H-shaped stator. This enables both ends of an energised coil to be used to impart motion to the rotor section.

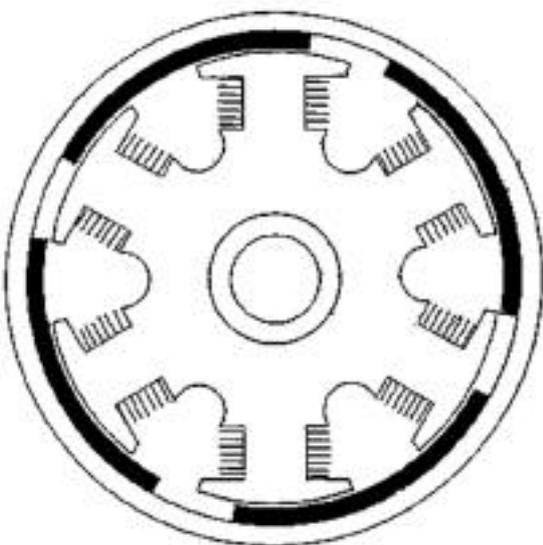
Figure 3 places the two stator designs side by side to highlight the novelty in design. The resultant increase in efficiency and improvement in power-to-weight ratio means that the overall effectiveness of the technology is greatly enhanced without incurring a significant increase in manufacturing costs.

Independent support for this view was sought from Paul Chandler, Research Engineer of the Northern Territory Centre for Energy Research, then part of the Northern Territory University [now Charles Darwin University]. He stated the following on 18 July 2000:

"The general theory is that permanent magnet (PM) machines are capable of producing higher efficiencies over others such as induction motors and reluctance motors. They can be very robust and produce a large torque for their physical size.

"The revolutionary feature of the Gemini motor is that it has the capability of producing more power for the same volume.

Figure 1



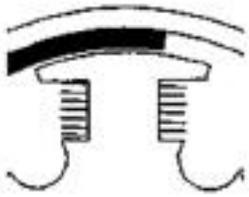
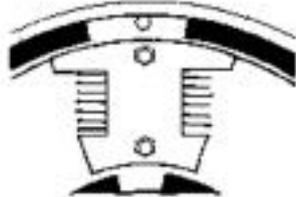


Figure 3 (a) Classic



(b) Gemini

Theoretically, it is capable of handling twice the power of a same-size conventional motor and, while doing so, remain[ing] at the high efficiencies that PM motors are capable of.

"A reduction in size comes with the obvious benefit of material reduction, hence savings in weight and cost. A less obvious advantage is that a reduction in size opens up markets where space limitations have previously led to the use of costly and inefficient transmission systems.

"The manufacturing principles of the Gemini motor are conventional in fashion and would require a minimal retooling cost as compared with other novel motors emerging from the field of research."

Flux Paths

Permanent magnets require a complete flux path between the poles; and unless the motor provides a path for these vectors, the flux lines are completed through air. If lines of force permeate the apparatus in such a fashion, the result may be to cause drag upon the rotor and reduce the efficiency of the device.

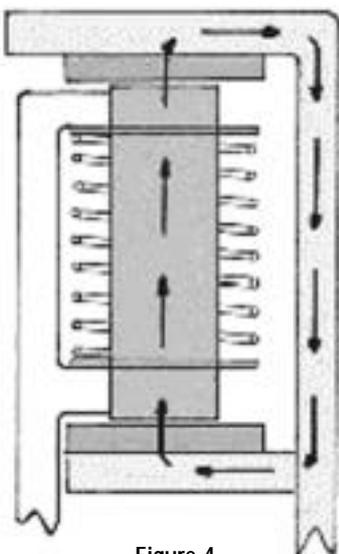


Figure 4

In a device such as an electric motor where fields are in a constant state of change, the net loss in performance from undirected lines of magnetic force can be significant. This is perhaps another

reason why electrical engineers have avoided permanent magnets in motor design, as they introduce not only expense but also additional design challenges.

The Ettridge solution to this issue, illustrated in figure 4, is to provide the motor with a magnetically permeable back plate which acts to contain the magnetic lines of force of the permanent magnets. This ensures that the magnetic signature of the technology is relatively clean and the rotor action can function without excessive magnetic drag. It also means that the magnetic fields have to cross only two air gaps as opposed to a more conventional four. Therefore, another principle of the Ettridge motor technology is the creation of a magnetic flux circuit.

Energy Recovery

A further development of the Ettridge technology was the integration of a regenerative capability.

Apparatus was developed that enabled current to be extracted from the motor while in operation, without placing a load upon the motor. While many motors feature an ability to draw energy from the motor while braking or in other low-load scenarios, the Gemini motor can produce a real output at all times, even while under heavy load. This output can be fed back into the motor or used to recharge the source, and augments the efficiency gains already apparent in the design. A number of different implementations exist for this method, and one is illustrated in figure 5, taken from the patent.

Summary

The patented Ettridge Gemini electric motor technology features a number of innovative design characteristics that are likely to become increasingly common in the next generation of electric motors. Not only can significant efficiency gains be realised but more importantly, for many applications, power-to-weight ratios can also be improved. With this in mind, it is

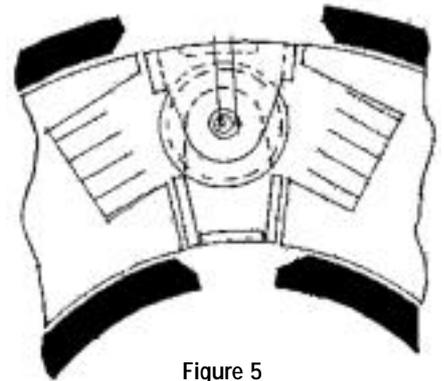


Figure 5

likely that the commercial popularity of electric motor technology will only increase in the years ahead.

Postscript

Gold medals were awarded for the Ettridge Commutator at the International Invention and New Products Exhibition held at Geneva, Switzerland, in May 2004, and for the Gemini Electric Motor at INPEX 2004, the inventions show held in Pittsburgh, Pennsylvania, USA, in May. For more information on the Gemini patent, refer to International Patent Application number PCT/AU01/00707 dated 13 June 2001.

About the Inventor:

John Patrick Ettridge is a 59-year-old Australian who has been inventing devices for much of his life, most seriously since 1969 when he invented his orbital engine. Information on a number of his inventions can be seen at his home webpage, <http://www.picknowl.com.au/homepages/jpettridge>.

For more details on the Gemini motor, contact John Ettridge at md@geminielectricmotor.com or jpettridge@picknowl.com.au, or visit the Gemini motor website at <http://www.geminielectricmotor.com>.

About the Author:

Tim Harwood, MA, has followed the "free energy" scene since the early days of the cold fusion movement. With genuine postgraduate research qualifications, he seeks to bring academic rigour, combined with eloquence of expression, to free energy research. He is probably best known for the CD motor project, which helped popularise Adams motor technology, and the POD project, as well as for running the old Parallel Path and Adams motor egroups (see <http://www.geocities.com/theadamsmotor/index.html>). His article on Joe Flynn's Parallel Path Magnetic Technology was published in NEXUS 11/01. Tim can be reached by email at timharwood@usa.net.

NEWSCIENCE NEWSCIENCE NEWSCIENCE

Editor's Note: Some aspects of the Gemini motor remind me of the Adams Pulsed Electric Motor Generator, so I decided it was time for another mention, including on the sacred geometry encoded in the design of the motor. The following items are extracted from inventor Dr Robert Adams's website at <http://www.aethmogen.com>.

THE SECRET OF THE ADAMS MOTOR

© by Dr Harold Aspden

Now we come to the secret of the Adams motor. A rotor magnet acts across an air gap between it and a soft iron stator pole. It is attracted by the action in the magnet sustaining that Bohr magneton polarisation, that which gives it its magnetic properties.

As the poles of the magnet and the stator come together to deliver mechanical work to the motor shaft, the magnetic flux in the magnet gets stronger and stronger as the reluctance of the air gap reduces with its closure. This involves deflection of the microscopic magnetic regions in the crystals of the magnet—which means that they, as microscopic solenoidal current sources, turn into one another to contribute mutual inductance energy, feeding the input power to the gap by drawing on the Universal Energy Bank. In short, we make a withdrawal of energy as the poles close to their in-register position.

Now, the "bank" wants the money back as we now allow the magnet to turn away from the soft iron stator pole, but we preempt this by "closing the account". We neutralise the magnetic polarisation of the stator pole by a rather clever stratagem. It

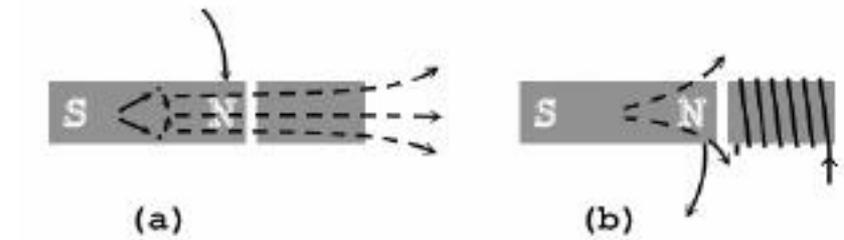


Figure 1 (a) and (b): Adams Motor Gap Flux Control

is a design trick. The account was designed with a bias that assisted withdrawal of funds. In technical terms, the stator pole was left open-ended, meaning that at its extremity, removed from the pole gap, it developed poles, endowing it with a self-demagnetising field—see figure 1 (a).

So, when we decide to neutralise the magnetism in the stator pole, all we have to do is to apply a small current in a stator winding—see figure 1 (b)—to produce a field acting against the magnet as soon as the gap is closed. This plus the magnet's own demagnetising field will then drive the magnet poles back into the rotor.

It is a case of "heads, we win some energy" and "tails, the aether loses some energy", because that magnet, if made shorter by neutralising the soft iron end pieces, has such a powerful coupling with the Planck action quanta in space that it can draw extra energy from the vacuum medium when we chop off its ends.

Those who design conventional electric motors are so intent on avoiding open-ended magnetic circuits to reduce magnetising current and keep copper losses in check that they have missed seeing how, by planning to accept a little extra copper loss, the magnetism can work *for* them by supplying far more energy "for free"!

The "New Energy Age" that lies ahead should allow us to warm to the idea of rewriting the history of Creation as the product of a concerted motion of background electrical charge in space. It is that which accounts for gravitation and ferromagnetism. Just as the concerted synchronous collective motion of charge in orbital motion in a magnet causes the elements of the magnet to be mutually attracted, so that same action in the vacuum jitter, in being dynamically mass-balanced in matter, generates a force of gravitational attraction between elements of matter.

This is the subject of my book, *Modern Aether Science* (Aspden, 1972), but it has taken the advent of the Adams motor to show us the way forward in exploiting the technology of the aether.

The Aether and Free Energy

It is important to stress that there are essentially three ways in which the aether will yield "free energy". One involves using a radial electric field to lock a spin coupling onto the synchronous orbital jitter of the vacuum medium. Another involves the direct atomic-electron one-to-one quantum coupling with the orbital jitter, developed by overexciting a ferromagnet. These have been discussed above, the latter only in connection with the Adams motor, but

CALORIMETER TEST

In practice, I engage the following set-up [depicted at left] for measuring power to determine efficiency, which does not require or involve the measurement of electrical parameters. The only parameters required to be measured are:

1. Thermal capacity of water, cylinder, heater and container; thermal capacity of the Adams machine and container;
2. Temperature;
3. Time.

These three measurements are basic physical quantities that can be measured accurately and are independent of any time-varying pulses. Calculation from these measurements alone will give the *total energy released per second* by the machine from the "aether".

— Robert Adams

there are solid-state implementations linked with, for example, the names Hans Coler and Floyd Sweet. The third route to "free energy" involves the electrodynamic interaction between aether and an electrical plasma discharge comprising heavy ions, the so-called "cold cathode discharge".

An electrodynamic process will not communicate a spin action, meaning no turning couple, but it can impart linear momentum in conserving energy between the aether and a material system, meaning that the aether can be caused to do work by applying an EMF to that discharge.

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MAGNETISM AS IT RELATES TO THE ADAMS AETHER ENERGY TECHNOLOGIES

by Dr Robert Adams
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Below are four of the laws of magnetism:

- Law One:** Opposite poles attract;
- Law Two:** Like poles repel;
- Law Three:** A depolarised magnet neither attracts nor repels;
- Law Four:** The third law cancels out the first and second.

The third law, in effect, is what manifests the gating of energy from the aether at the instant in time that the magnet and stator are neutral in relation to the air gap and time. This results in the machine, at this point of time, entering into a state of *unity*, i.e., negative time, zero point, infinity—you name it.

This phenomenon takes place at the exact centre of the air gap between the magnet and the stator at time X^0 , and this is the vital unlocking mechanism of tapping the awesome, infinite, aether power of space!

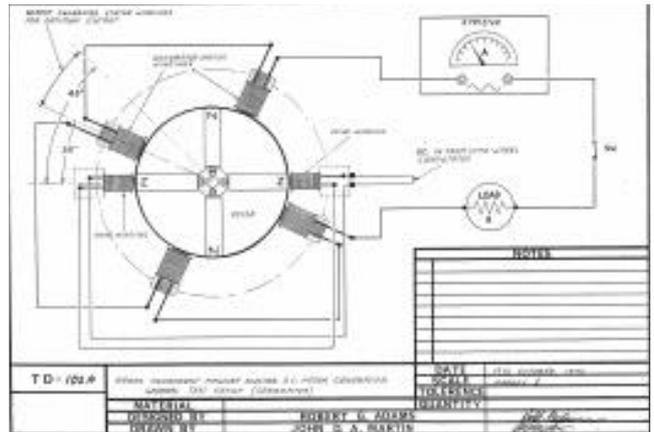
Thus now, in view of the aforementioned findings, it has to be acceded that there are

simply "no lines of force" present at X^0 . This is a very important scientific discovery and is of historical significance.

The central point described between the stator and the magnet at "zero neutral time" is the point at which all three forces of energy, i.e., torque, heat and electricity, manifest and are *simultaneously* "gated" from the aether by the neutralisation of both the magnet and the stator at "zero neutral time".

Although it would appear to defy belief, the magnet does not do any work *per se*; it attains momentary neutrality and remains cool in spite of the machine generating awesome heat, which together with torque and electric power all simultaneously continue to rise additively and accumulatively, as is graphically depicted in the Calorimeter Test Temperature Graph [see previous page].

(Source: <http://www.aethmogen.com/wri/radams/magnetis/magnet1.shtml>)



published by *NEXUS Magazine*)—possibly because that schematic diagram appears at first glance unorthodox or a difficult exercise to achieve! As David Saltresse discovered, this is not so—if you look at this schematic diagram with eyes to see.

Now, further secrets are revealed in that I can advise readers that I apply the so-named sacred geometry of the golden ratio in conjunction with a very important naturally occurring constant of nature. I also apply this same equation to resistance measurements, load resistances, voltage, geometrics of magnets, rotor and stator dimensions. This equation also applies to the mass and placement of the addition of a certain unusual material used in the construction of this awesome heat-generating rotor system.

This is a unique system in that it is an implosive and totally reverse-engineered machine which operates in the real realm of *unity*. The power manifested over time is "infinite" and therefore immeasurable.

A reminder here to those unaccustomed to the understanding of the condition known as "infinite energy". Irrespective of any measurement of input energy losses and input power, there is no known value/measurement of infinite energy output power. Because of its infinity, it simply cannot be measured!

(Source: <http://www.aethmogen.com/wri/radams/200111goldenratio.shtml>)

Editor's Note:

For more information on the remarkable Adams Pulsed Electric Motor Generator (APEMG), visit the website <http://www.aethmogen.com>. *NEXUS Magazine* also sells the APEMG Manual and the Addendum to the Manual; see our website at <http://www.nexusmagazine.com> or our product pages at the back of this magazine, or contact your nearest *NEXUS* office.

THE GOLDEN RATIO MOTOR GENERATOR

by Dr Robert Adams, 19 October 2001

A young enthusiastic colleague of mine, by the name of Andrew, currently resident in Auckland, New Zealand, phoned me to advise that David Saltresse of Wales, Great Britain, had contacted him via email to reveal he had worked out the geometric placement of all four of the output AC generator windings of one of my motor generators which was originally invented in the early 1970s.

He advised Andrew that the geometric placement of the output generator stator windings was measured with the aid of incorporating the "golden ratio". "All four," David said, "are found to confirm they correspond directly with the golden ratio geometrics."

There was always the remote possibility that out of the many hundreds of people worldwide who have attempted to replicate my original machines, only a few would have taken the advantage of probing deep into the detailed schematic diagram of this particular motor generator (which I included in my original motor manual,