

9-11-85

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## COLE GENERATOR MAGNETIC MATERIALS CUBIC MASS VERSUS CONVENTIONAL DEVICE MASS.

A classic example shows that the COLE GENERATOR will drive a conventional type 24 volt, D.C. motor to its full torque rating, yet the motor has over 12 times the total magnetic material mass than that of the generator powering it.

This should show us a relative comparison between a back E.M.F. generating concept and a conventional E.M.F. type motor. By now you should start to gain a slight insight to just how inefficient today's conventional generators and alternators actually are.

Using the COLE GENERATOR as a reference quantity of 1 for each magnetic material, the list will show the ratio of increase for the motor.

<u>MATERIAL</u>	<u>MOTOR MASS CUBIC AREA</u>
1 COPPER (Wire)	2.2 X
1 STEEL LAMINATIONS	10 X
1 SOFT STEEL (Field Pole)	9 X
1 PERM-MAGNET (Field)	28 X
Ø CARBON (Brush)	1 X

TOTAL SUM MASS RATIO

GENERATOR = 4      MOTOR = 50.2

OR, 1:12.55

WEIGHT RATIO

GENERATOR = 1      MOTOR = 5.66

OR, 1:5.66

If the generator had the same magnetic material mass of the motor, it should then be capable of powering at least 12 motors of the same magnetic material mass.

Now, let me ask you why the motor can even operate with over 12.5 times the magnetic mass of the generator supplying its motive power, and at the same time weigh almost 6 times as much. This is in direct conflict with all basic magnetic, electromagnetic force (E.M.F.), and related A.C. and D.C. engineering design formulas.

At this point in time, there are no real design formulas for the Cole type generator concept; the true math just doesn't exist: advances must be accomplished by gained experience and trial and error.

Conventional E.M.F. math formulas have been found to be incorrect by as much as 25 to 1 in several cases. One of the most fundamental statements, which has been repeatedly referred to, virtually from day one of E.M.F. generation theory, is the term, "CUTTING THE MAGNETIC LINES OF FORCE." In the last fifteen years, it has been proven by others and myself, that cutting lines of force to be completely incorrect as a statement of an E.M.F. - power generating function. The proper statement should be, "ABSORPTION OF MAGNETIC FORCE FIELD". An E.M.F. generator should then be referred to as a magnetic field absorption device, and a motor as a magnetic field displacement device.

Absorption, charge, and discharge are the keys to making any E.M.F. or BACK E.M.F. power generation actually work.

Reverse E.M.F. energy or BACK-E.M.F. is the one energy source that has been virtually abandoned, but with one everyday type exception; the "Kettering" type ignition system in virtually all



gasoline powered automobiles.

Keep in mind it only takes six times as much average power to fire the spark plugs in your auto with forward E.M.F. methods, than it does with the BACK E.M.F. "Kettering" system — does this tell you something? Even then we have been repeatedly told by the masters of engineering that BACK E.M.F. energy is uncontrollable and is an enemy, not a friend; it should be quenched, checked off, or diverted in virtually all design considerations: — — I wonder how many times "Nikola Tesla" has rolled over in his grave at this one? — — his basic energy source!

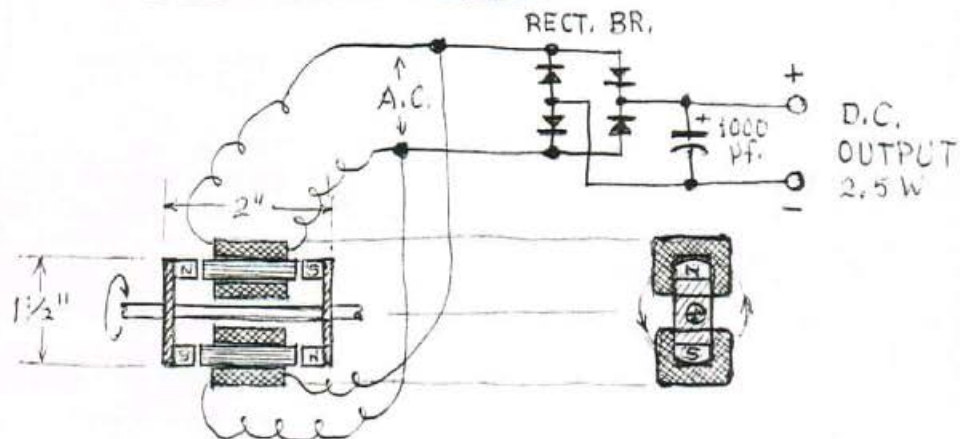
When taking full advantage of the BACK E.M.F. energy concepts, a whole new world of power generating efficiencies can be realized. This is the direction we are presently proceeding, and will continue until our realization is common knowledge.

B.E. "Ron" Cole

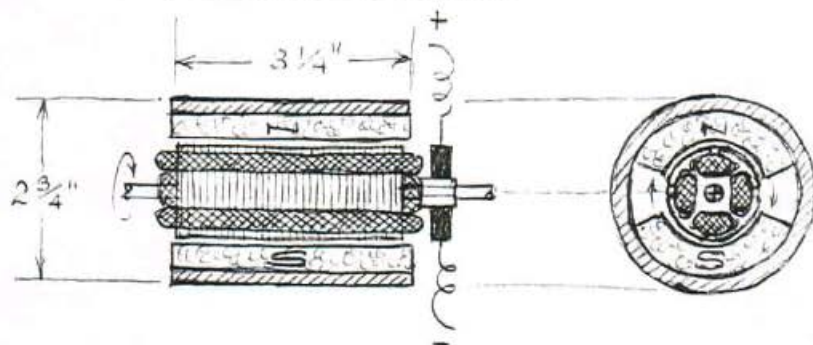
1985

# EQUIV. SIZE COMPARISON

## COLE GENERATOR



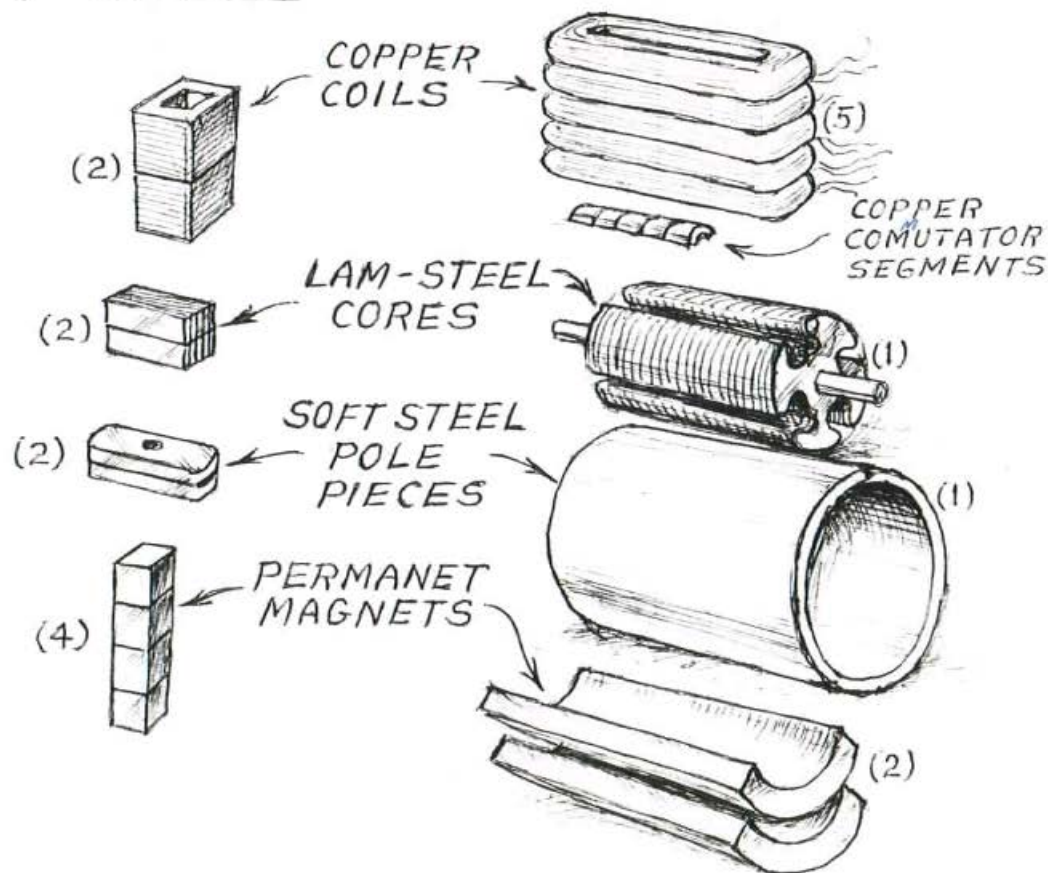
## 2.5W. D.C. MOTOR



- COILS
- PERM-MAGNET
- LAM STEEL CORE
- STEEL POLE PIECE

2.5 WATT  
BACK EMF  
GENERATOR

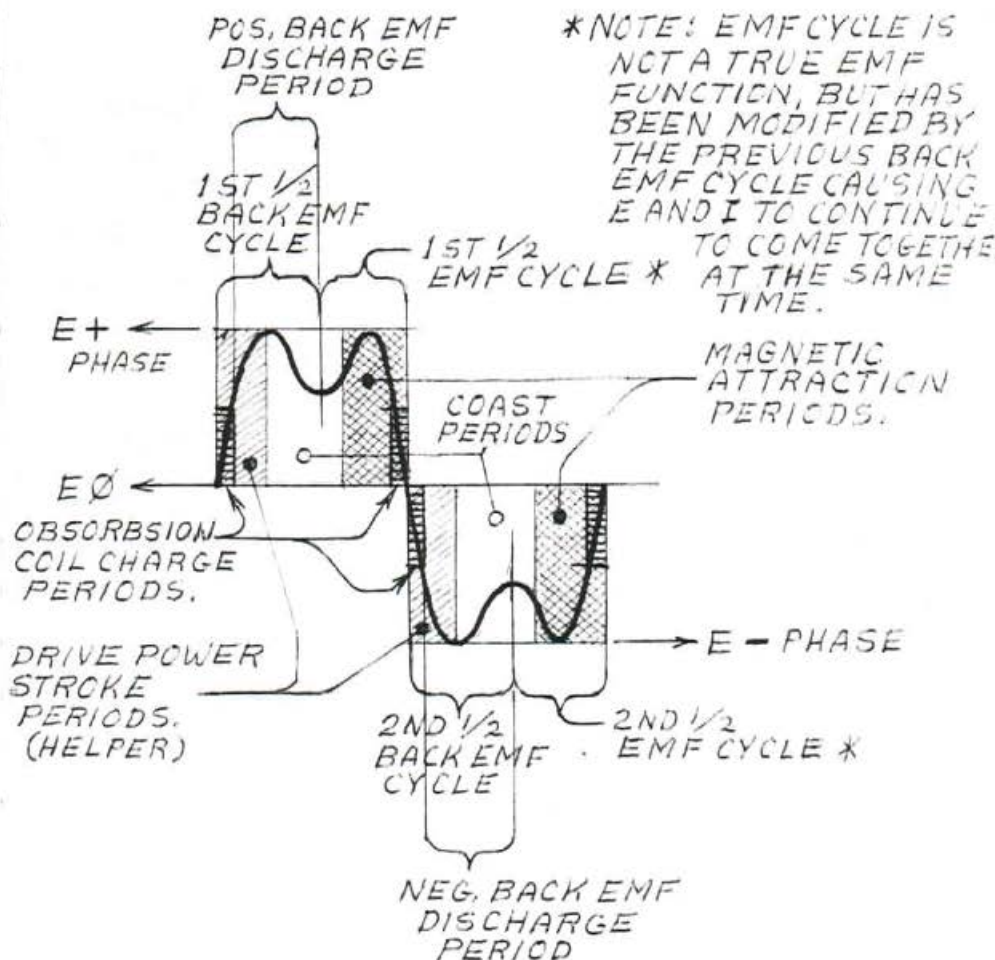
2.5 WATT  
D.C. MOTOR



# COLE GENERATOR ONE CYCLE FUNCTIONAL BREAKDOWN.

B.E.C.  
 1985

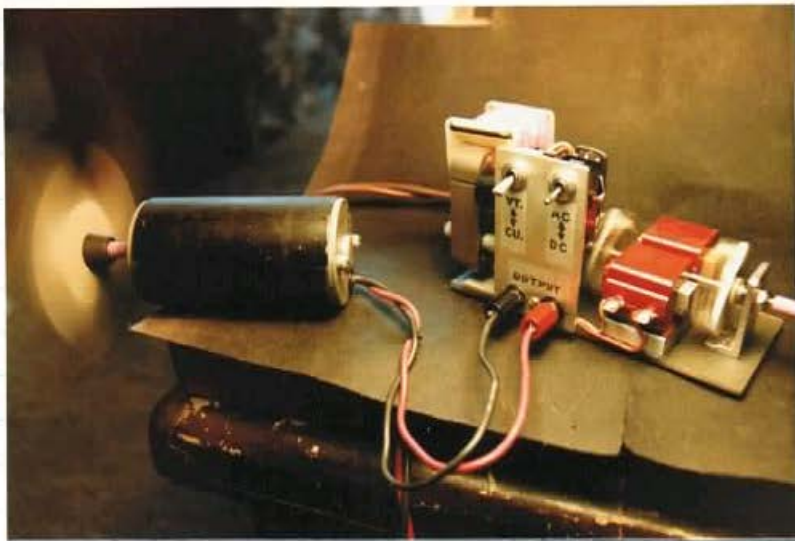
VOLTAGE WAVEFORM AS SEEN ON SCOPE.



## TOTAL PROPORTIONAL % OF ONE CYCLE

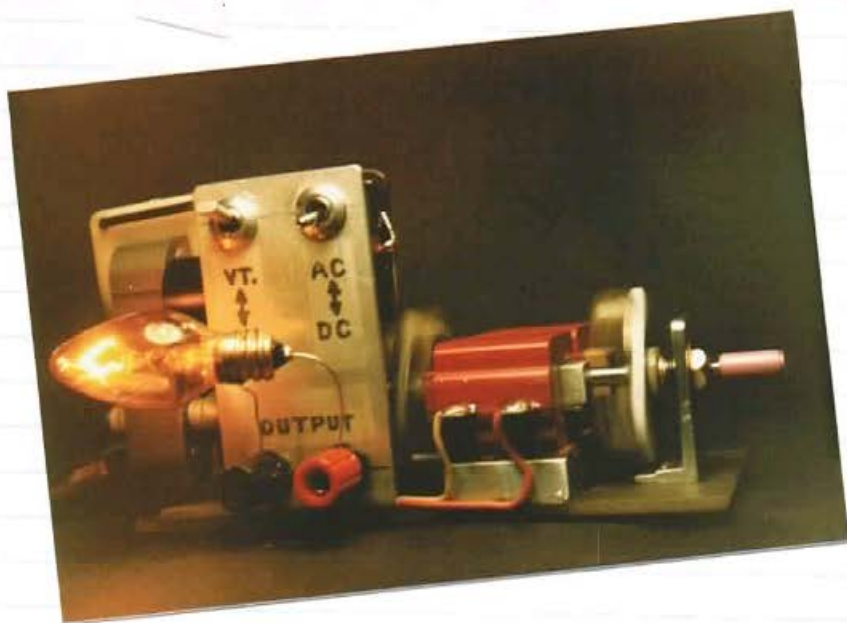
	DRIVE POWER STROKE	= 27%	←
	COAST PERIOD	= 37%	
	MAGNETIC ATTRACTION PERIOD	= 36%	

①



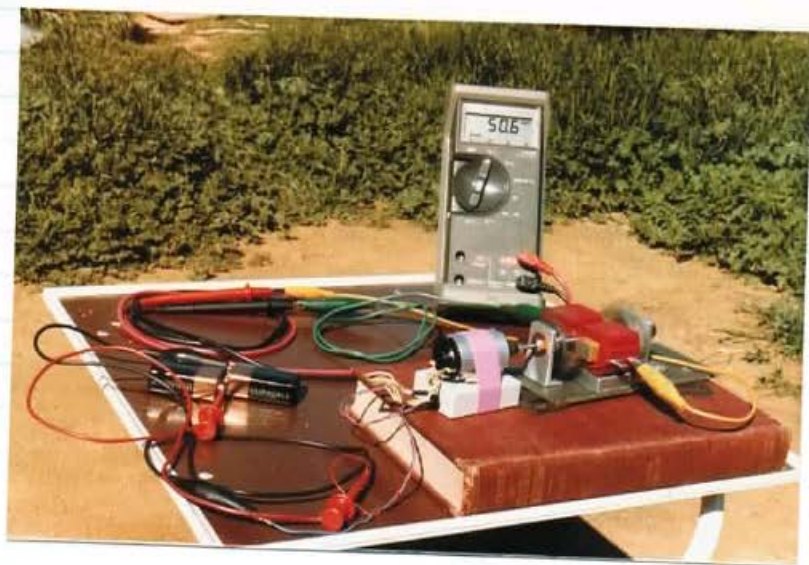
24 Volt, 2.5 Watt D.C. Motor driving 8 inch fan at the motors rated speed of 1500 RPM. Voltage to motor was 24.1 volts at .108 amps. (2.61 Watts)



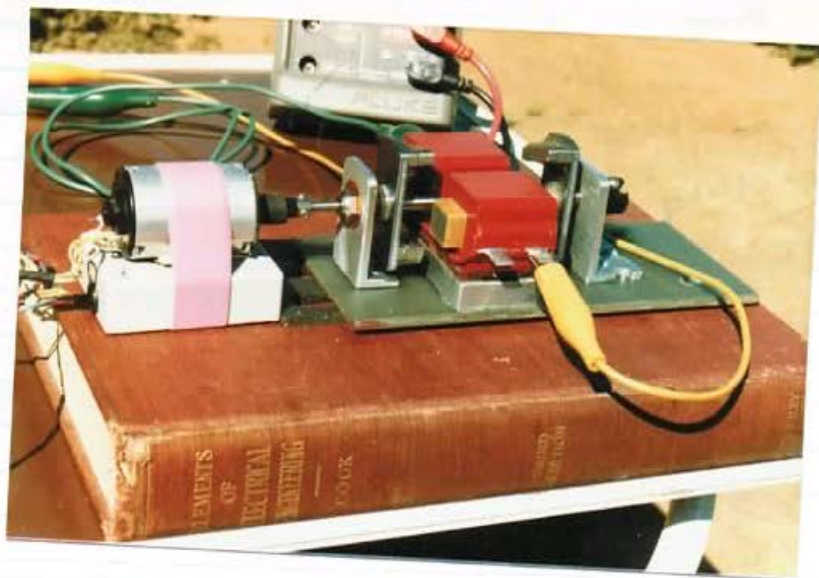


5 Watt, 115 Volt Amber lamp giving 50% of the illumination to take this photo: the other was a 60 watt overhead lamp.

The voltage was 87 volts D.C. at .0295 Amps, (2.57 watts)



Small brushless electronic switching D.C. motor driving "Cole" generator at about 2000 RPM. The motor is rated at 15 volts D.C. Its D.C. supply is the two 9 volt transistor radio batteries on the left. Note the meter is reading of 50.6 volts D.C.; at 3600 RPM it would be about 115 Volts. The diameter of the motor is only  $1\frac{1}{16}$  inch by  $1\frac{3}{8}$  inches in length.



The BOOK at least makes a good  
base support --- observe title.

The motors electronic switching  
circuits are in the box under it.