Rodin Coil Design

By Bill Ramsay

Several years ago 1 learned of Marko Rodin's theoretical design for an unusual coil. I got a copy of his book "Aerodynamicsss - The Dandelion Puff Principle - Point Energy Creation Physics." (1) and wound a few coils based on his design. Only a few nondefinitive tests were run at the time.

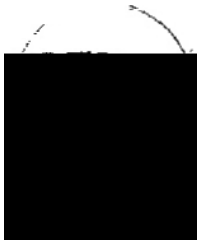
Recently I felt inspired to delve further into the potentials of this design and a number of simple coils were made and simple tests run. None of the coils so far match exactly the proportions Rodin feels are necessary for the most profound results but do show some interesting attributes and a few surprises suggesting more to come. Perhaps some of this will be of interest to others and find applications.

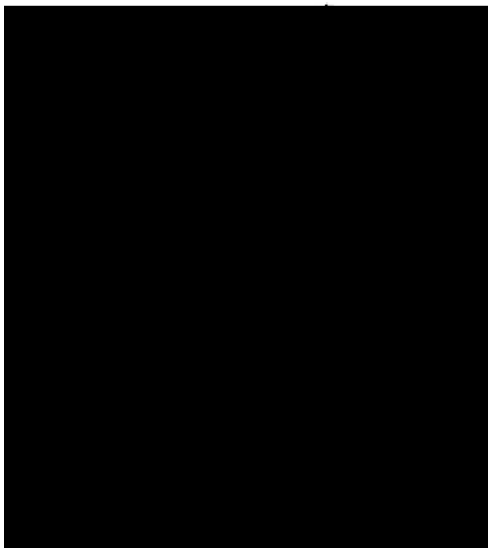
Most of the coils wound here so far use as forms readily available plastic "rings" which are part of the "Fisher-Price" child's toy, “rock- a- Stack.” There are five different sized and colored forms in this set priced at about $4.00 at Wa1marts. The approximate dimensions of these are: (all in inches)

	A	B	C	D	One Rodin wrap	one *Rodin turn*	*one* conventional turn
Blue	4.8	2.25	3.9	1.1	5.563	66.75	3.896
Green	4.5	2.06	3.8	1.1	5.292	63.5	3.802
Yellow	4.13	1.8	3.6	1.06	4.92	59	3.604
Orange	3.8	1.7	3.38	1.0	4.542	54.5	3.375
Red	3.5	1.5	3.2	.94	4.167	50	3.198

In the Rodin design <u>two</u> <u>equal</u> coils are wound in the same direction of rotation with each wrap (12 wraps per turn) passing through the center to connect with its 150° seperated neighbors. This resliits in 12 wraps: semi-loops; with as many crossover wires for each of the two equal turns. These center crossover wires form a distinctive pattern Rodin calls "the magic circle." The two equal windings are shifted 10° from each other.

B





I have a good stock of #24 enamel wire so used this throughout. Each completed winding consists of a number of turns laid side-by-side around the outside each connecting segment crossing over the previous ones as it passes through the center. 'This is necessary to insure the outer turns progress in the same direction for each wrap-to the left or right of each proceeding wrap.

The hollow plastic forms are not very rigid so wires should be snug but not too tight or they distort the form and loosen previous wraps. Some forms were split and stuffed with foam which helps some.

Before winding each form was prepared by using a sharp knife to trim off the raised lettering and to rough up the slick finish. Templates with the l0˚ segments were used to mark the outside with a felt tipped pen. The segments thus formed were numbered as to winding order.

I first wound the wire on a common round pencil using this as a shuttle to pass the wire through the center. The known per turn lengths were used to figure amount of wire needed.

Even whit great care the finished windings are a bit loose so household glue and/or tape was used to tidy these up. A white fiber-glass tape used is available from electric motor rewinding shops which are also a good source for the enamel wire. I paid $4.00 a pound about 800' per pound- for the # 24 wire. Tape and glue were used at the start and finish of each winding.

Tests were run to see the 1st order attributes and how these compared with conventional winding methods. It seemed to me logical that a toroid wound solid with wire in the usual way ought to yield the highest L (inductance) since its field would be the more concentrated than a Rodin style where a good portion of the wire would be "wasted" going through the center. Not so as shown!

Form	winding style	total wire	total turns	total wraps	L	comments
Yellow	conventional	79'	263	s/a turns	242UH (Q.6)	one layer
Yellow	Rodin Coil	79'	16 (8x2)	192	370 UH (Q 1)	+53%
Blue	conventional	122'	402	s/a turns	480 UH (Q.9)	one+ layer
Blue	Rodin Coil	122'	22 (11.x2)	264	780 UH (Q 1.5)	+62.5%

(All tests at 1KHZ of "vintage" GR 650-A L bridge. Rodin style coils connected series-aiding)

Obviously the center crossover region is active! But how active? A 1/2" diameter by 7" long ferrite rod placed through the center of the Rodin style coils yielded 890 UH (Q 2.4) or +141% for the Yellow and 1,680 UH (Q 3.2) or +115% for the Blue one. As expected, this rod had no effect on the conventionally wound ones. So, the center region in Rodin style coils is quite active! But why?

To try to help answer this, a coil with 24 sepprate 10 turn conventional windings bunched at 10° intervals on a Yellow form was made. These seperate windings were first connected every other one together (12 sets x 2) then each set connected series-aiding. Done this way to get the same group groupings around the outside as in Rodin style windings. The L was 222UH Q.58).

Next these windings were connected through the center Rodin style (150° intervals) using same lengths of wire as first configuration. The L increased to 270UH (Q.7) or +22°! Addinq the ferrite had no descernible effect.

So, it seems there is some "Magic" in the geotnetric form alone of the Rodin design! I doubt this will surprise Marko who expects much more startling results with properly proportioned and-wound coils!

This book may be ordered for $30.00 PPd from Marko Rodin, 25 Punahoa Street, Hilo, Hawai 96720