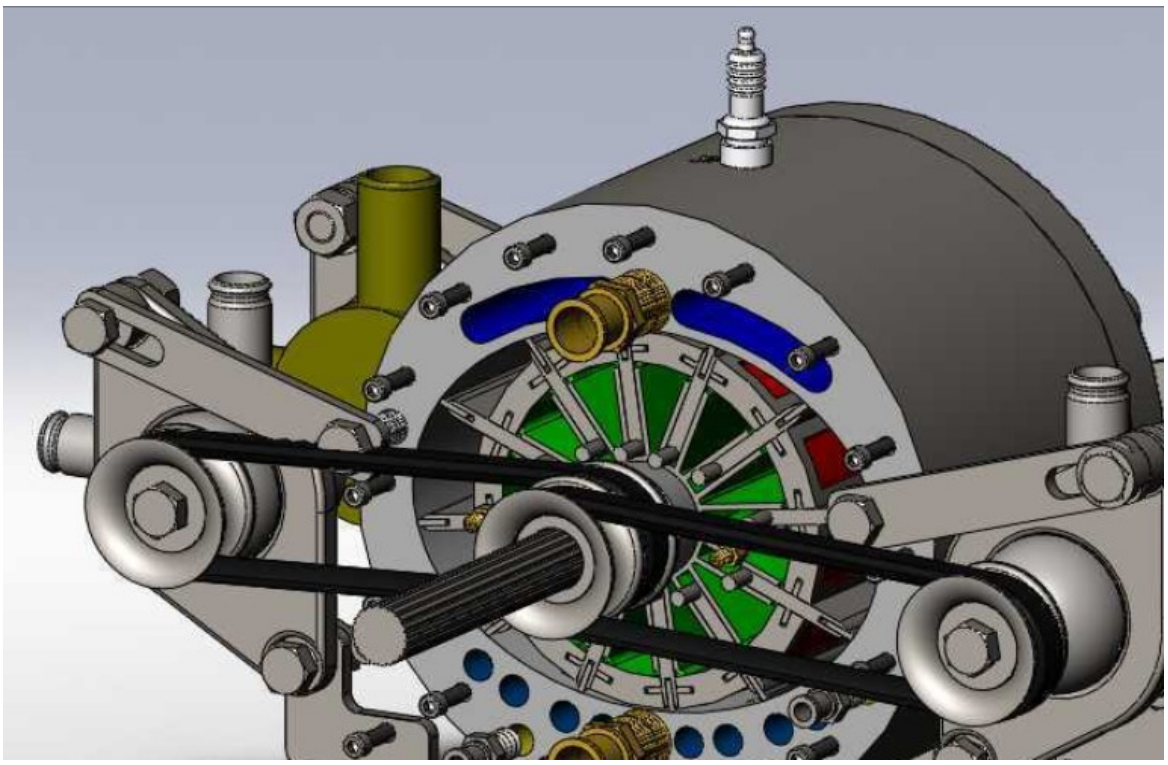
Circle Ellipse Engine

MEDIA KIT



The Circle Ellipse Engine is shown with accessories and end plate removed. Pseudo color used to highlight functions: cooling water (blue), air intake and exhaust (yellow), lubrication (green), and combustion (red)

INTELLECTUAL PROPERTY AVAILABLE FOR LICENSING / ACQUISITION / INVESTMENT

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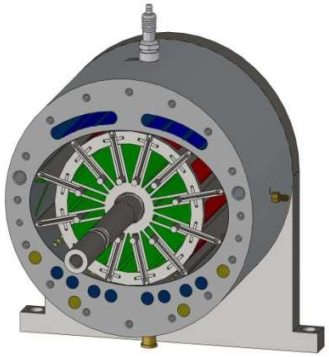
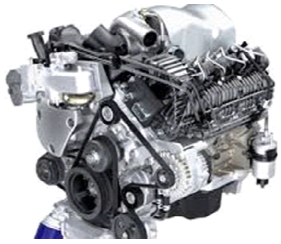
---------- PROSPECTUS / MEDIA KIT ----------

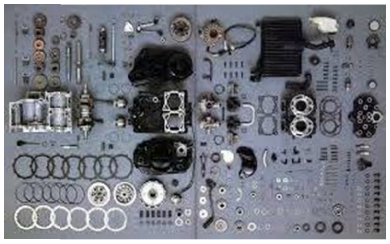
OVERVIEW



This prospectus will introduce the Circle Ellipse Engine, a newly patented technology available for licensing. The Circle Ellipse Engine is a Diesel or Gasoline internal combustion engine that is *Evolutionary, Lightweight, Symmetrical, Scalable, and includes only 5 Major Parts.* All engines feature mounting provisions for an alternator, water pump, oil pump, power steering pump, air supply (normally aspirated or supercharged) and exhaust.

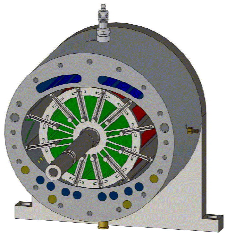
The Circle Ellipse Engine is shown with a transparent End Plate. Unlike the Wankel engine, which implements complex geometry called an Epitrochoid to implement the Otto Cycle, the Circle Ellipse Engine satisfies all requirements of the Otto Cycle with simple, symmetrical geometry.

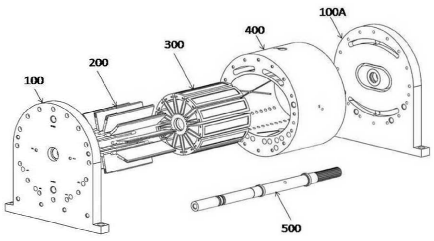




Modern V8 Engine
Established Performance
Over 1,000 parts
RPM: 2,000
Weighs 4 lb/HP
Average Cost: 12¢ / mile

Mazda Rotary Engine
Rebuilt at 50,000 miles
Over 400 parts
RPM: 6,000 (cent hub)
Weighs 2 lb/HP
Average Cost: 25¢ / mile





Circle Ellipse Engine (200 HP)
Less than 50 parts (5 unique)
Average RPM: 1,000
Weighs 0.75 lb/HP
Size (in): 14 H x 10 W x 8 D
Average Cost: 5¢ / mile

PRODUCT FEATURES & BENEFITS

Special Features

- **Elliptical housing inner surface encircles rotor forming variable size chambers for execution of the Otto-Cycle**
- **Reciprocating radial vanes partition the chambers into 12 sectors**
- **12 continuous combustion events every revolution**
- **Optimal rpm determined by fuel resonance time (approximately 8 milliseconds)**
- **Seal and coating technology derived from Mazda's implementation of Wankel Engine**
- **Housing integrates water jacket to ensure thermal stability**
- **Rotating parts cooled by injecting oil through rotary union section of hollow drive shaft into rotor**
- **Vane position governed by pin track in end plates**
- **Oil flow restrictors optimize lubrication of metal seals and minimize oil in combustion**
- **Major refurbishment cycle is 100,000 hours**
- **Operating Temp: -40^{o}F to +150^{o}F**
- **Scalable for any application**

Solutions Implemented in Circle Ellipse Engine Design

- **Lubrication – Strategically located oil ports are managed by flow restrictors**
- **Cooling by water and oil**
  - **High-flow water jacket provides housing thermal stability**
  - **High-flow rotary union provides rotor and vane thermal stability**
- **Sealing – Solutions adopted from successful Mazda implementation of Wankel Engine**
- **Thermodynamics – Integrates proven fuel and air management from successful engines**
- **Mechanical interfaces – Friction minimized using proven material selection & coatings**

COMPETITIVE SUMMARY

Competition

No known companies in our market space

- **Closest company doing anything similar was Mazda**
- **Mazda produced 800,000+ RX-7s integrating its implementation of the Wankel Rotary Engine**
- **Unfortunately, the Mazda Engine had significant issues with oil consumption & generation of pollutants,**
- **Production terminated 2002**

No other company has implemented (or patented) anything like the Circle Ellipse Engine

Required years to rethink the requirements & solve all design challenges – sealing, friction, thermodynamics, cooling, and lubrication

Patented solution implements very complex transcendental mathematics to evolve into something so simple, & easily translatable into CNC machine code

Barriers to Entry

Reciprocating Engines Perfected over 100+ years

- **Already Exist in Every Platform Application**
- **Favored as Low Risk Selection**
- **Well-Established Sales, Distribution, & Repair Capability**
- **Proven performance assures 20+ years operation**

Rotary engines are associated with risk

- **Only Mazda Implemented Successful Wankel Engine**
- **Withdrew from Marketplace 2002 due to issues**

Circle Ellipse Engine is an Unknown

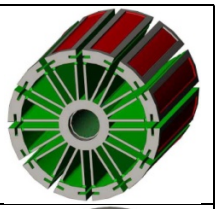
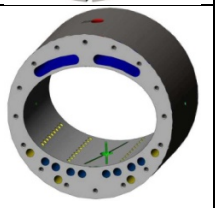
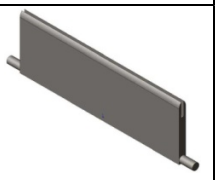
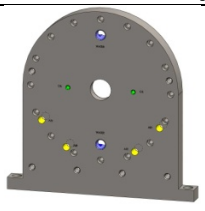
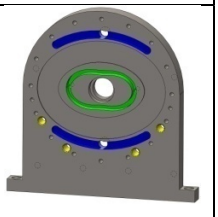
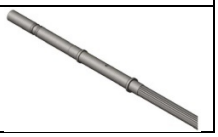
- **Requires fabrication**
- **Assembly**
- **Test**
- **Certification**

PRODUCT DETAILS

The Circle Ellipse Engine is Compact, Lightweight, and Vibration Free. It has only five major unique parts. These are the Rotor, Housing, Vanes, End Plates, and Drive Shaft.

The small size & weight are made possible by elimination of pistons, intake and exhaust valves, rocker arms, valve lifters, cam shaft, crank shaft, journal bearings, timing chains & related components.

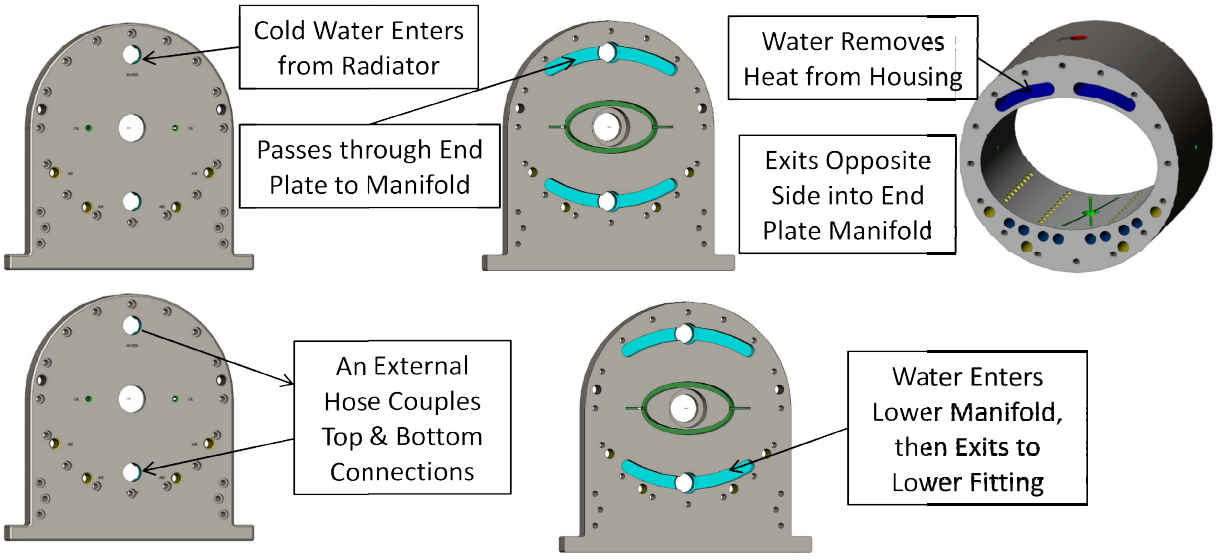
Components

Rotor: AISI 4340 Steel Normalized. The rotor is partitioned into 12 sections. Each section includes a pair of adjacent vane slots, and face seals to isolate the combustion areas from lubrication and cooling oil.	
Housing: AISI 4340 Steel, Normalized (Diesel), or 6061-T6 Aluminum (Gasoline). The Housing has passageways for water, oil, air, and exhaust. The elliptical center opening, in conjunction with the round rotor, forms the four events for the Otto-Cycle.	
Vanes: M2 Tool Steel, Qty 12. Each pair of adjacent vanes provide opposite walls of combustion chambers. The vane tip is slotted for apex seals, which serve the identical purpose as their counterpart in the Wankel Engine.	
 **End Plate. AISI 4340 Steel. An elliptical track in the end plates control radial position of the vanes. Patented spin track implements very complex transcendental mathematics easily translatable into CNC machine code**	
Drive Shaft: AISI 4340 Steel Normalized. Commercial Rotary Union couples lubrication & cooling oil to inside of rotor.	

Cooling Water

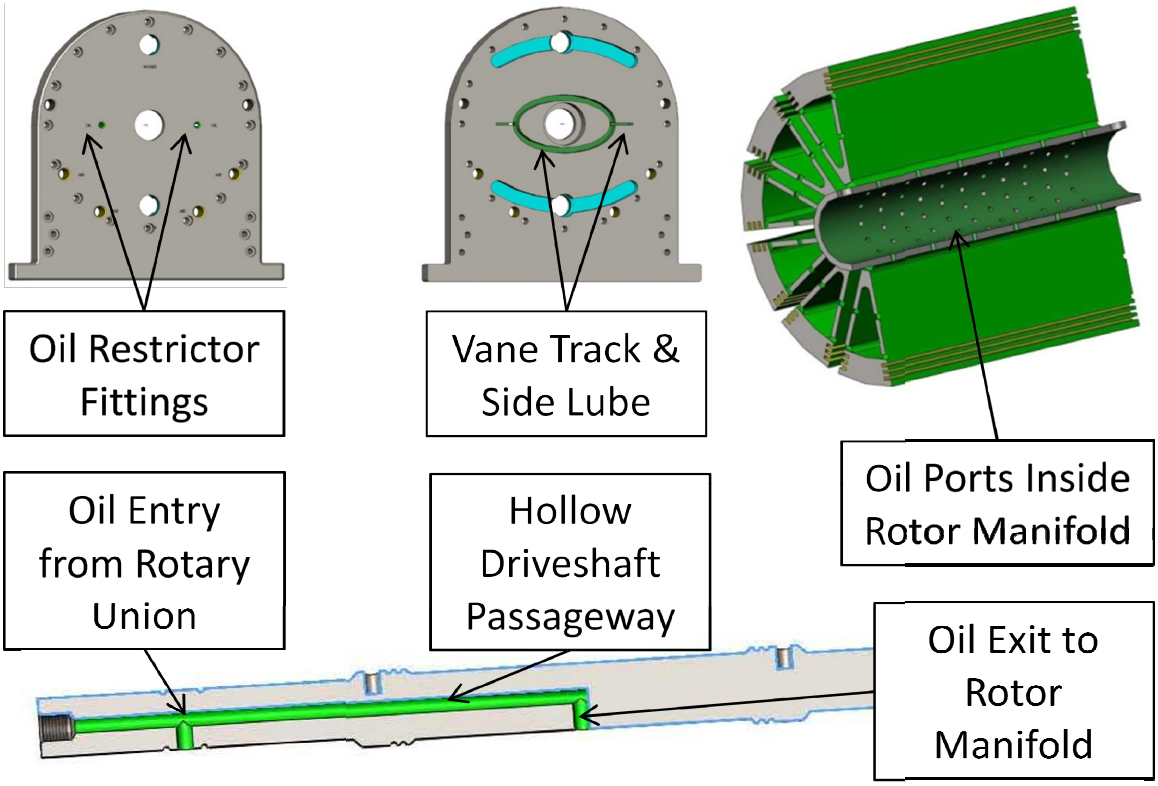
As the rotor turns, the Circle Ellipse Engine executes the Otto Cycle: Intake, Compression, Combustion, and Exhaust. The engine is normally aspirated. Intake air is drawn into an expanding sector, and then the air is compressed. In the gasoline version, the spark plug serves the same well-known purpose, and the combusted gas-air mixture rapidly expands. The final sector expels the exhaust gases. The Circle Ellipse Engine completes the Otto Cycle every rotation, unlike the two piston cycles of a reciprocating engine, so it achieves the same power as a reciprocating engine at HALF the RPM.

All engines use water to remove heat from the housing. All water-cooled engines share the same external connections and internal passageways for thermal stability. For rotating components, cooling oil enters via a commercial rotary union, through the driveshaft, and is distributed into the rotor and vanes through internal passageways.



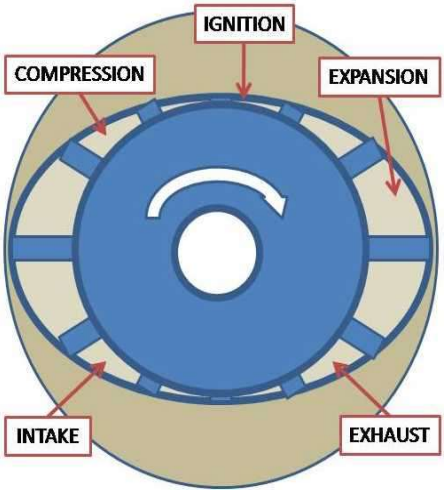
Cooling Oil

Cooling Oil enters the engine through the rotary union, passes through the hollow driveshaft, and exits into a manifold in the rotor. From there, distributed ports allow oil to flow into the rotor to lubricate the vanes, apex seals, and remove heat. A sump drain is located in the bottom of the housing to evacuate excess oil every revolution, which is de-foamed, filtered, and returned.



Combustion

The OTTO CYCLE is an idealized thermodynamic cycle that describes the functioning of a typical spark ignition piston engine. It is the thermodynamic cycle most commonly found in automobile engines.



The Circle Ellipse Engine Rotor turns inside the Elliptical Housing forming four expanding-contracting regions. These directly correspond to the four-stroke Otto Cycle.

Air and Exhaust

CLEAN, FILTERED AIR enters through two steel fittings on each of the end plates. These are aligned with passageways in the housing. Air is guided into chamber space between the housing and rotor through two lines of strategically placed ports. These allow the air to enter the rotor during the intake (expansion) portion of the Otto Cycle successively for each of the 12 Chambers.

EXHAUST products are expelled during the exhaust portion of the Otto Cycle. The exhaust is allowed to enter the housing through two lines of strategically placed holes, which in turn lead to ports on each side of the housing. These ports align with similar ports on each end plate. From there, exhaust is coupled by hoses to a muffler, and other treatment hardware if needed, such as a catalytic filter, resonator, or for a diesel engine, urea filter.

Size, Weight, Horsepower and Torque

The Circle Ellipse Engine is completely scalable. Here are several gasoline and Diesel engine examples, based on the Tracker Aerospace analysis spreadsheet, which is available on the Circle Ellipse Engine web site. The link is http://circleellipseengine.atwebpages.com/index.html. The Diesel Engine RPM is optimized by fuel resonance time, which is approximately 8 milliseconds. The gasoline engine RPM can be much higher, limited only by capability of bearings, and amount of fuel available from the common rail injection system.

Displacement	Fuel	Weight (lbs)	Size (in x in x in)	Torque (lb-ft)	Horsepower
2 Liter	Gasoline	246.9	12x12x10	432	324 @ 5000 RPM
7 Liter	Gasoline	665.9	17x17x15	1514	1134 @ 5000 RPM
12 Liter	Gasoline	1046.8	19x19x17	2041	1943 @ 5000 RPM
5 Liter	Diesel	571	14x14x12	835	358 @ 2250 RPM
12 Liter	Diesel	1163	1x18x16	2006	860 @ 2250 RPM
20 Liter	Diesel	1789	21x21x19	3342	1432 @ 2250 RPM

FINANCIAL OUTLOOK

More than 1-billion internal combustion engines are produced each year. Applications range from small yard equipment (lawn mowers, chain saws, blowers, and chain saws), automotive (gasoline and Diesel engines), tractor and farm equipment (excavators, dozers, graders, dumpers, etc.), power generation (home backup, auxiliary power units), and aircraft propulsion (drones, small propeller driven). The subsequent financial projections are based on a very conservative estimate that one-thousandth of one percent (1 in 100,000) would purchase a Circle Ellipse Engine on the market. Assuming a 10-to-1 markup from manufacturing cost, which is calculated at $400.00/unit in low rate production based on industry quotes, initial units would retail at $4,000.00, which is 2/3 of the cost of a comparable big block crate engine. An annual growth factor, based on a standard new product adoption curve, is assumed once the Circle Ellipse Engine gains market acceptance. Year 1 is reserved for prototyping, test and certification, and therefore no revenue is shown.

Example Consumer Forecast:

Year	Year 2	Year 3	Year 4
Units Sold	1,000	10,000	100,000
Gross Sales ($M)	4.0	40.0	400.0
Cost of Goods ($M)	0.4	4.0	40.0
Gross Profit ($M)	3.6	36.0	360.0

Any internal combustion engine manufacturer who acquires this technology would also succeed in the global marketplace. It is important to note that these projections should be considered as illustrative only of the tremendous market potential for this distinctive new product. It is clear that there is an enormous market for this product and that success in even a very small sector will generate huge returns.

INTELLECTUAL PROPERTY

Robert Grisar, founder of the Circle Ellipse Engine Company, holds United States Patent and Trademark Office (USPTO) utility patent No. 10,570,739 issued on 25 February 2020. This patent has three claims that protect the exclusive design and function of the Circle Ellipse Engine.

Robert Grisar Background

- **15 years experience with reciprocating internal combustion engines & U.S. Weapon System propulsion**
- **Consultant to RadMax Technologies, Inc, Subsidiary of Regi Technologies, Inc., a public company formerly trading on the TSX exchange as REGRF**
- **Served as Director, VP Engineering, chief designer, patent holder, & lead marketing person**
- **Awarded several U.S., Canadian, & EU patents for the RadMax™ rotary engine**
- **Prepared & delivered technical & management briefings to dozens of high-level executives at major engine manufacturing companies & end users**
- **Prior, founder & president of the Military Parts Reinvention Network (MILPARTS), dedicated to support our War Fighters, without limit**

SUMMARY:

Objective: The Circle Ellipse Engine Company is seeking a long-term arrangement with a company to manufacture, market, and/or distribute this new technology based on the acquisition of the intellectual property rights.

For additional information and potential terms to acquire this innovative technology contact:

ROBERT GRISAR
President, Circle Ellipse Engine Company
1124 Lauren Manor Loop
Ruskin, FL 33570
Telephone: +1.440.463.2765
Email: rgrisar@gmail.com

DISCLOSURE STATEMENT

The Circle Ellipse Engine Company (the "company") has prepared the attached business prospectus (the "plan") based upon its current understanding of the industry, expansion plans, markets, technology and other pertinent indicators.

The plan contains information to provide prospective investors with a foundation on which to base meaningful discussion with management of the company. The projected financial information is management's projection of possible future results and is dependent on many factors over which they are derived. Neither the company nor any of its representatives makes any express or implied representation or warranty as to the attainability of these projections or the accuracy, completeness or reasonableness of the assumptions. Neither the company nor any of its representatives makes any express or implied representation related to any past, current or future patent infringement claims the plan represents.

Statements in this plan are made as of the date hereof and are subject to revision at the sole discretion of the company's management. Some of the revisions may be material. In all cases and notwithstanding the use of words such as "will" or "shall" or any discussion or characterization of future actions or events, this prospectus is intended to be an indication only of the company's current intentions. The delivery of this plan shall not create, under any circumstance, any implication that there has been no change in the affairs of the company and other information contained herein since the date hereof.

The company makes no express or implied representation or warranty as to the attainability of the financial projections or the accuracy or completeness of the information herein or any other written or oral communication transmitted or made available. The projections of future performance are necessarily subject to a high degree of uncertainty and may vary materially from actual results. Only those representations and warranties that are made in a definitive agreement when and if executed, and subject to any limitations and restrictions as may be specified in such definitive agreement shall have any legal effect.

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