

The Ancestry of Freedom Motors

Market Development

Fichtel Sachs Wankel engine used in snowmobile, but was underpowered and unreliable.

OMC develops a snowmobile Wankel engine. Used as a test product in anticipation of stricter marine emission standards.

Mazda develops Wankel auto engine but poor fuel economy and energy crisis limit future to sports car.

Snowmobile market plateaus, OMC exits market despite their reliable Wankel engine.

John Deere purchases Curtiss Wright Wankel assets, but aero-design market costs limit market opportunity.

Stricter pollution standards do not materialize and OMC offers orphan Wankel engine assets for sale.

New federal standards set for industrial and auto engines emissions. Full impact not expected until 2000.

Ultra-low emissions standards are set for CA. Rotapower engine demonstrates ability to meet these extreme standards in hybrid car without catalytic converter.

Two stroke engines continue to be outlawed in many parts of the world. CARB and EPA mandate emission limits for marine market.

Snowmobiles are banned in all National Parks due to CO emissions.

Hand-held power tool market comes under attack due to emissions.

Trucking industry mandated to eliminate truck idling for auxiliary power.

Hybrid car provides ideal candidate to showcase Rotapower engine.

Rotapower Engine Development

P. Moller begins discussions with Curtiss Wright and initiates Aero program at UC Davis w/ Wankel engine test lab.

Moller forms M Research company to develop Wankel powered personal commuter aircraft.

Fichtel Sachs Wankel engine used in XM-4 (M200X predecessor) but was underpowered.

Purchases OMC Wankel snowmobile engine production technology, engineering time, and hardware.

Modified version of OMC engine powers M200X in flight before International press.

Develops a twin rotor (1600cc/2-rotor) engine for GE to be produced by Infinite Machines Corp for UAV applications.

Develops prototype, 1060cc twin rotor, liquid cooled engine. Receives patent for lubricationless coating.

Acquires the assets of Infinite Machines Corp (NASDAQ listed company). Assets include OMC liquid cooled rotary engine marine technology licensed from OMC.

Rotapower engine demonstrates ability to operate on alcohol, diesel and natural gas. Additional key technologies are patented.

Freedom Motors is spun off as independent company with license to manufacture and distribute Rotapower engines for all applications except aircraft and ducted fans.

Develops 27cc Rotapower engine for power tool market under contract from Techtronics.

Develops 150cc Rotapower engine under contract from Thermofan.

Demonstrates and has patents pending for compound version of Rotapower engine.

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ROTAPOWER® engines can:

- Replace 2-stroke engines worldwide
- Become the engine of choice for hybrids cars
- Effectively compete with 4 stroke piston in markets like auxiliary power units (APU) where weight, size and multi-fuel capability are important.