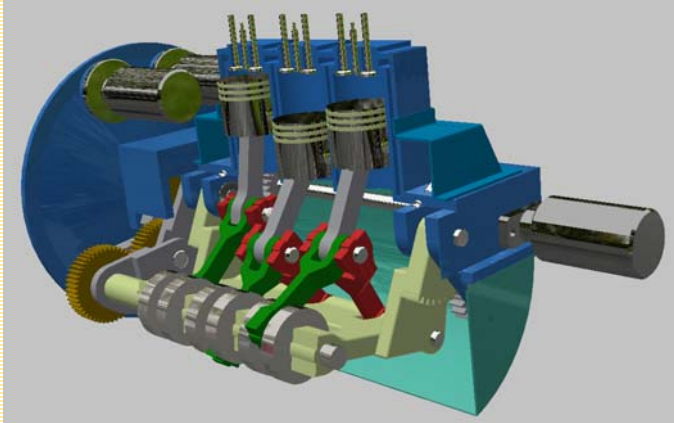
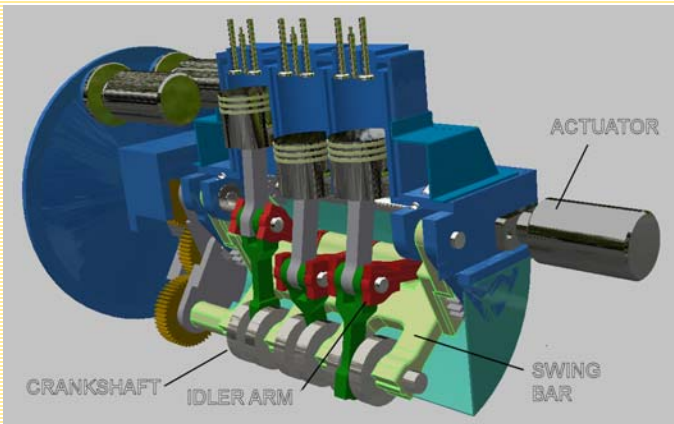


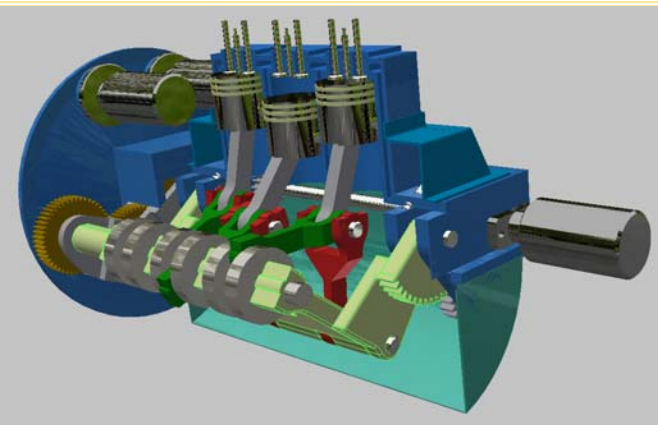
VD/VC - VARIABLE DISPLACEMENT AND VARIABLE COMPRESSION ENGINE



Variable displacement in an engine allows for optimizing the performance of the engine to get maximum fuel economy at one time and maximum power at another time. A variable compression ratio in an engine allows it to burn different fuels at different times.



The variable displacement part of the VD/VC engine is accomplished by moving the Swing Bar and therefore moving the Crankshaft to different positions. In this figure the Crankshaft is directly below the Pistons for maximum volume and therefore for maximum power. The Piston Rod is made in 2 hinged pieces with an Idler Arm connected to the hinge and the pivot center of the Swing Bar.



In this figure, the Swing Bar has been moved almost 90° for minimum volume giving low fuel consumption and greatest economy. The Swing Bar and Crankshaft can be moved to any intermediate position for the desired compromise between greatest economy and greatest power.

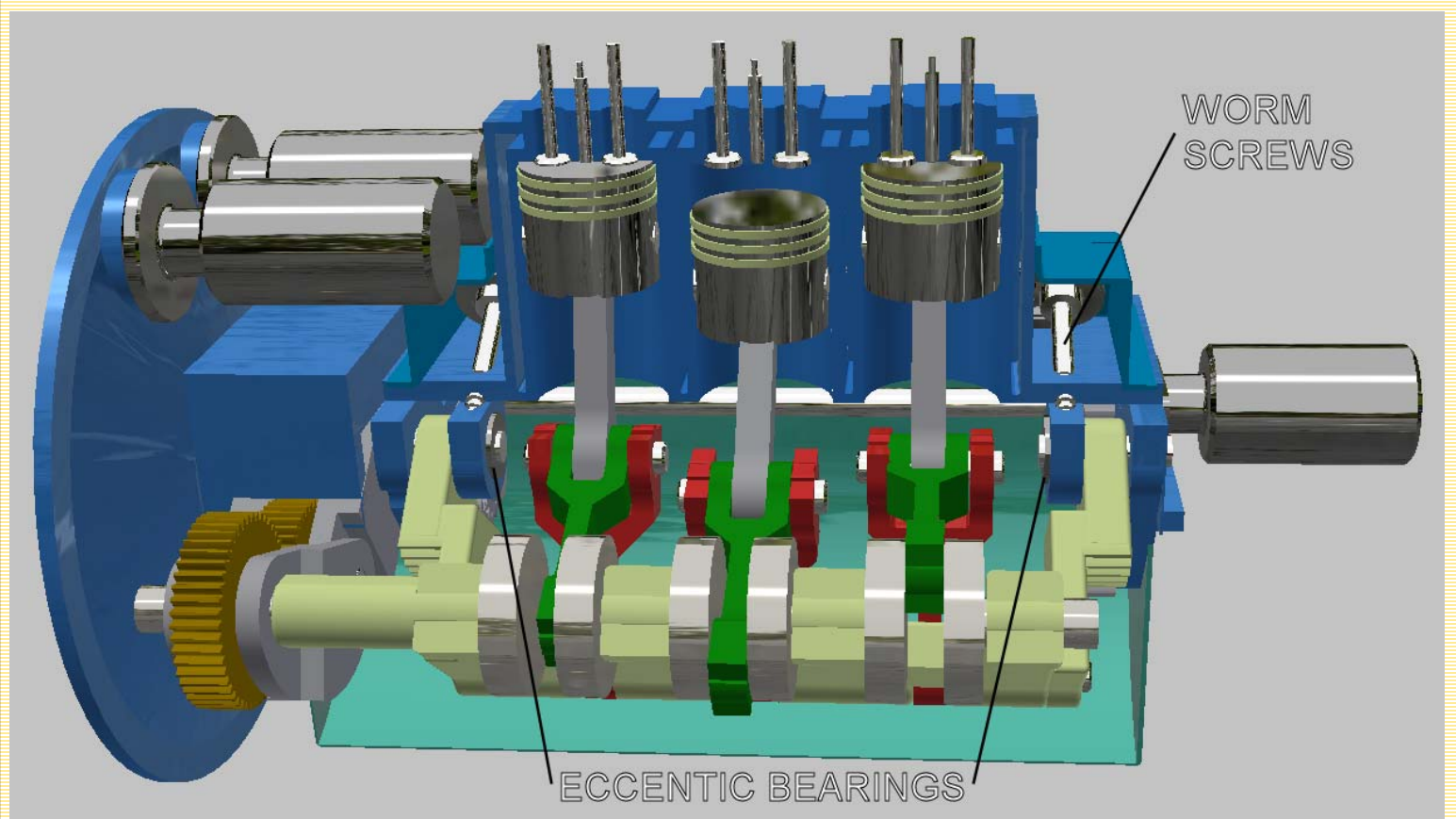
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Patented

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The variable compression ratio of the VD/VC engine is accomplished by mounting the Swing Bar on Eccentric Bearings. When the eccentric bearings are rotated they effectively move the Swing Bar and Crankshaft closer to or further from the top of the piston chamber. Whereas it takes a lot of movement to change the volume in the combustion chamber, it only takes a slight movement to change the compression ratio.

The two Worm Screws to rotate the Eccentric Bearings will be driven by a common chain to keep them synchronized.

Variable volume and variable compression ratio can be done in the same engine as is shown, or either of the features can be done independently.

This invention available for licensing. Not a current product. Patent Pending.

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