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Development of an Opposed Piston Two Stroke Gasoline Aviation Engine

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The most famous opposed piston two stroke engine ever to fly was the Jumo 206, developed by Nazi Germany to extend the benefits of diesel economy and long reliability to aviation. They did a remarkable job, but the engine fared poorly against Spitfires in combat, and the project was largely abandoned. Some 50 years later, a renewed wave of interest in the concept has seen several major engine companies experimenting with the design in order to re-introduce its benefits. I began researching this same aspect several years ago before determining that my research would be largely duplicating that already done by others.

About this time, I began to wonder about the possibility of using the same two stroke opposed piston paradigm in a gasoline engine. If this paradigm could produce a diesel engine light enough to fly, what could it do to the gasoline engine? I found very limited past experimentation with this subject, but the results do indicate that an engine based on this technology could be nearly as light as current two stroke engines on the market, but still have the durability of current 4 strokes. At the same time, most of the pollution problems associated with current two strokes could be eliminated.

In this ongoing research presentation, I would like to share where I am in the development of this engine, and where I would like to go. I am currently looking for collaboration with engineering and computing resources in order to make this possible.