

Invention Publication: Gap Filler Gaskets

Gap Filler Gaskets on WinGD Two-Stroke Engines

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- The principle of gap filler gaskets has already been applied to several production and research engines
- The basic idea is applicable to all X-DF engines with the main focus to reduce methane slip without big effort or downsides
- One or more so called gap filler gaskets are inserted between liner and cylinder cover, depending on engine type design
- They are located near the actual sealing gasket, but they are thinner than it to avoid induction of stress into the liner in undesired positions
- Designs that completely block of the volume via a flexible gap filler gasket design, i.e. by using a comb-like pattern or similar, are also possible
- The main benefit of this solution is methane slip reduction by reduction of crevice volume
- The driving effect is the gap filler gaskets taking up space that could otherwise be occupied by air/fuel mixture.
- It is known that air/fuel mixture in the crevice burns only to a certain extent. It may not burn at all. The amount of air/fuel mixture burned in the crevice depends on many factors such as charge motion, global and local air/fuel ratio and so on. By closing of this volume, the amount of unburned fuel is reduced.