

Title (en)

VALVE CONTROL FOR INTERNAL-COMBUSTION ENGINES WITH OUTWARDLY OPENING PISTON VALVES TO ACHIEVE AN OPTIMUM COMBUSTION SPACE

Publication

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Application

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Priority

DE 3301007 A 19830114

Abstract (en)

[origin: EP0114184A2] More recent investigations have designated the limits of combustion chamber design as very significantly dependent on the position, the shape and the temperature as well as the overlapping; this is respective to the required spaces for the valves. Since attempts are being made to increase further the compression, particularly in the case of 4-stroke petrol engines, with given fuel octane levels, the invention with the designation "Valve control for internal-combustion engines with outwardly opening piston valves to achieve an optimum combustion space" is based on the idea that the valves which normally open inwards into the combustion chamber be redesigned to open outwards. In the past, thought had also been given to known slide-valve controls. The criterion was the free design opportunity that was ideal to the greatest possible extent. The problem of the closing force in the case of outwardly opening valves in the operating stroke has been solved according to the invention by a bell crank system. The valves are designed in the shape of pistons in order to reduce the flow resistance. The piston shape assists the valve control process. The temperature particularly of the exhaust valve ought to be considerably lower. The combustion chamber design is homogeneous, i.e. it has no fissures. The combustion chamber can be arranged as a combustion basin in the piston, underneath the spark plug. The pressure surfaces and gaps can be laid out in an optimally even manner. It could be imagined that the piston surface was provided with twisted-shaped channels so that the twist did not occur until compression in the direction of the basin, which would not be so detrimental to the volumetric efficiency as the generation of the twist in the channel. Finally, reference is made to the simple and cheap engine construction resulting from the outwardly opening piston valves. <IMAGE>

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