

Title (en)

Internal combustion engine having scavenging control valve

Title (de)

Brennkraftmaschine mit Ventileinrichtung zur Spülungssteuerung

Title (fr)

Moteur à combustion interne ayant un dispositif de commande d'une soupape de balayage

Publication

EP 1788218 A2 20070523 (EN)

Application

EP 06124274 A 20061117

Priority

JP 2005333970 A 20051118

Abstract (en)

The invention aims to provide an internal combustion engine equipped with a scavenging control valve, in which blow-by of combustion gas from the upper annular space above the top piston ring to the scavenging ports is prevented by which reduction in engine performance due to deposition of combustion gas residuum to the scavenge openings and occurrence of piston ring sticking due to deposition of combustion gas residuum to the piston rings can be prevented, and further the amount of working oil to drive the scavenging control valve can be reduced resulting in decreased energy loss for pressurizing the working oil. An annular-shaped scavenging control valve is fitted-in to a fitting face formed on the inner side of the cylinder liner movably in circumferential direction of the cylinder liner for opening and closing said scavenging ports in order to allow scavenge air to be supplied into the cylinder or interrupted, said scavenging control valve has a plurality of scavenge openings arranged along circumferential direction and in a plurality of stages in axial direction thereof so that the scavenge openings are brought into communication or discommunication with the scavenging ports of the cylinder liner by moving the scavenging control valve in circumferential direction thereof, and the scavenge openings of each stage has a height L1 which is smaller than a inside distance L2 between a top piston ring and a bottom piston ring equipped to a piston of the engine as shown in FIG.3.

IPC 8 full level

F01L 7/04 (2006.01); **F01L 1/38** (2006.01); **F01L 9/02** (2006.01); **F02B 25/04** (2006.01)

CPC (source: EP KR)

F02B 25/04 (2013.01 - EP KR); **F02B 25/20** (2013.01 - KR); **F02F 1/22** (2013.01 - KR); **F02B 2075/025** (2013.01 - EP)

Cited by

DE102015005316A1; US10371042B2; US10371022B2

Designated contracting state (EPC)

CH DE DK LI

Designated extension state (EPC)

AL BA HR MK RS

DOCDB simple family (publication)

EP 1788218 A2 20070523; **EP 1788218 A3 20120725**; CN 100491707 C 20090527; CN 1982669 A 20070620; JP 2007138834 A 20070607; JP 4395474 B2 20100106; KR 100777949 B1 20071121; KR 20070053150 A 20070523

DOCDB simple family (application)

EP 06124274 A 20061117; CN 200610168936 A 20061120; JP 2005333970 A 20051118; KR 20060114163 A 20061117