Title (en)

OIL-COOLED INTERNAL COMBUSTION ENGINE

Publication

EP 0340205 B1 19920513 (DE)

Application

EP 89890103 A 19890410

Priority

AT 110388 A 19880429

Abstract (en)

[origin: JPH01313614A] PURPOSE: To cool high temperature engine parts sufficiently by branching a secondary circuit from a lubricating oil circuit of the downstream side of an oil cooler to form an additional cooling circuit. CONSTITUTION: A lubricating oil circuit 2 and a cooling oil circuit are connected to a common oil sump 7. A secondary circuit 10 is branched from the lubricating oil circuit 2 of the downstream side of an oil cooler 8. An injection nozzle 12 for cooling a valve flange of a cylinder head is arranged in an outer pipe 10a of the secondary circuit 10. An injection nozzle 12 for cooling a piston is arranged in an inner pipe 10b. In this way, it is possible to cool high temperature engine parts sufficiently.

IPC 1-7

F01M 1/12; F01M 5/00; F01P 3/02; F01P 9/00

IPC 8 full level

F01M 11/02 (2006.01); **F01M 1/12** (2006.01); **F01M 5/00** (2006.01); **F01P 3/02** (2006.01); **F01P 3/08** (2006.01); **F01P 3/14** (2006.01); **F01P 3/20** (2006.01); **F01P 5/10** (2006.01); **F01P 9/00** (2006.01); F01P 3/00 (2006.01)

CPC (source: EP US)

F01M 1/12 (2013.01 - EP US); **F01M 5/002** (2013.01 - EP US); **F01P 3/02** (2013.01 - EP US); **F01P 9/00** (2013.01 - EP US); F01M 2005/004 (2013.01 - EP US); F01P 2003/006 (2013.01 - EP US); F01P 2003/027 (2013.01 - EP US); F01P 2005/105 (2013.01 - EP US)

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EP1050569A1; DE4442221A1; EP0636772A1; DE4325141A1

Designated contracting state (EPC)

AT DE FR GB IT NL SE

DOCDB simple family (publication)

EP 0340205 A2 19891102; **EP 0340205 A3 19900321**; **EP 0340205 B1 19920513**; AT E76160 T1 19920515; CA 1324040 C 19931109; DE 58901374 D1 19920617; JP H01313614 A 19891219; JP H066890 B2 19940126; RU 1802852 C 19930315; US 4926800 A 19900522; YU 60389 A 19931020

DOCDB simple family (application)

EP 89890103 A 19890410; AT 89890103 T 19890410; CA 596727 A 19890414; DE 58901374 T 19890410; JP 10482889 A 19890426; SU 4613833 A 19890414; US 33674989 A 19890412; YU 60389 A 19890324