

Title (en)

Combination with cylinder head and cylinder block and usage of such a combination

Title (de)

Kombination mit Zylinderkopf und Zylinderblock und Verwendung einer derartigen Kombination

Title (fr)

Assemblage d'une culasse et d'un bloc moteur et son utilisation.

Publication

**EP 2077388 A3 20091028 (DE)**

Application

**EP 09150134 A 20090107**

Priority

- EP 08100146 A 20080107
- EP 08100147 A 20080107
- EP 09150134 A 20090107

Abstract (en)

[origin: EP2077388A2] The combination has a cylinder head (2) connected with a cylinder block. Cylinders (7) have outlets (21) for discharging exhaust gas and attached with an exhaust pipe. The exhaust pipe merges under formation of an exhaust manifold (4) that is partially integrated in the cylinder head to an entire exhaust pipe (16). A housing (5) non-permeable by the exhaust gas is provided for cooling the exhaust gas. The parts of the housing and the combination form a monolithic component. A ridge (6) is formed inside the housing.

IPC 8 full level

**F02M 25/07** (2006.01); **F01P 11/04** (2006.01); **F02F 1/24** (2006.01)

CPC (source: EP)

**F01N 13/105** (2013.01); **F02F 1/243** (2013.01); **F02F 1/40** (2013.01); **F02M 26/26** (2016.02); **F02M 26/30** (2016.02); **F02M 26/32** (2016.02); **F02M 26/41** (2016.02); **F02M 26/24** (2016.02); **F02M 26/51** (2016.02); **F02M 26/70** (2016.02)

Citation (search report)

- [XA] EP 1006272 A2 20000607 - HONDA MOTOR CO LTD [JP]
- [XA] FR 2738289 A1 19970307 - RENAULT [FR]
- [XA] JP 2002285915 A 20021003 - TOYOTA MOTOR CORP
- [E] EP 2077387 A1 20090708 - FORD GLOBAL TECH LLC [US]
- [E] EP 2077385 A1 20090708 - FORD GLOBAL TECH LLC [US]
- [A] EP 1154144 A1 20011114 - IVECO FIAT [IT]
- [A] DE 2802095 A1 19780727 - ISUZU MOTORS LTD

Cited by

US2017276095A1; FR2991393A1; FR3059724A1; US2011315129A1; US9010304B2; DE102010038055A1; CN108547703A; DE102011007140A1; US10330054B2; EP3085943A1; US9828894B2; WO2021139886A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA RS

DOCDB simple family (publication)

**EP 2077388 A2 20090708; EP 2077388 A3 20091028; EP 2077388 B1 20101201**; DE 502009000190 D1 20110113

DOCDB simple family (application)

**EP 09150134 A 20090107**; DE 502009000190 T 20090107