

Title (en)
Internal combustion engine with exhaust pipe

Title (de)
Brennkraftmaschine mit Abgaskrümmer

Title (fr)
Moteur à combustion interne avec tubulure d'échappement

Publication
EP 1520973 A3 20050413 (DE)

Application
EP 04021305 A 20040908

Priority
DE 10345829 A 20031002

Abstract (en)
[origin: EP1520973A2] The internal combustion engine for a motor vehicle has a combustion chamber with an inlet port for the feed of combustion gas, an exhaust port for the discharge of combustion products, and a fuel supply unit for the feed of liquid fuel. The exhaust port is located in an exhaust manifold of thin-walled metal sheet with a roughened inner surface for the absorption of unburnt or partially burnt fuel. The exhaust manifold is constructed from at least two separate part shells formed in a non-cutting process, with the inner surfaces roughened by a non-cutting and/or a cutting treatment.

IPC 1-7
F01N 7/10

IPC 8 full level
F01N 7/10 (2006.01); **F01N 7/18** (2006.01); **F01N 13/10** (2010.01); **F01N 13/18** (2010.01)

CPC (source: EP)
F01N 13/10 (2013.01); **F01N 13/18** (2013.01); **F01N 2510/00** (2013.01); **F01N 2530/26** (2013.01)

Citation (search report)

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- [PX] EP 1411218 A2 20040421 - ATJ AUTOTECHNIK GMBH [DE]
- [A] US 6038769 A 20000321 - BONNY PIERRE [DE], et al
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- [A] DE 10048286 A1 20020411 - AUDI AG [DE]
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- [X] PATENT ABSTRACTS OF JAPAN vol. 017, no. 544 (M - 1489) 30 September 1993 (1993-09-30)
- [XA] PATENT ABSTRACTS OF JAPAN vol. 006, no. 063 (C - 099) 22 April 1982 (1982-04-22)
- [X] PATENT ABSTRACTS OF JAPAN vol. 2000, no. 13 5 February 2001 (2001-02-05)

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)
EP 1520973 A2 20050406; EP 1520973 A3 20050413; DE 10345829 A1 20050421

DOCDB simple family (application)
EP 04021305 A 20040908; DE 10345829 A 20031002