

Title (en)  
Dual pipe exhaust manifold

Title (de)  
Doppelrohr-Abgaskrümm器

Title (fr)  
Collecteur d'échappement à double tuyau

Publication  
**EP 2636864 A1 20130911 (EN)**

Application  
**EP 13001125 A 20130306**

Priority  
• JP 2012051412 A 20120308  
• JP 2012276065 A 20121218

Abstract (en)  
A dual pipe exhaust manifold includes an inner pipe (2), an outer pipe (3) and a plurality of spacers (23a-23c). The inner pipe (2) includes a plurality of branch pipes (21 a-21 d) and a plurality of collector pipes (22a and 22b). The collector pipes (22a and 22b) are slidably connected to each other. One end of each of the branch pipe is fixed to a flange section (20) configured and arranged to be attached to a cylinder head (1a) of an engine (1), and the other end of each of the branch pipe is slidably connected to a corresponding one of the collector pipes (22a and 22b) so that each of the collector pipes (22a and 22b) is connected to a plural number of the branch pipes (21a-21d). The outer pipe (3) covers a circumference of the inner pipe (2). The spacers (23a-23c) are disposed between the outer pipe (3) and the inner pipe (2) to form a gap therebetween.

IPC 8 full level  
**F01N 13/10** (2010.01); **F01N 13/14** (2010.01)

CPC (source: EP US)  
**F01N 13/10** (2013.01 - EP US); **F01N 13/141** (2013.01 - EP US); **F01N 2260/10** (2013.01 - EP US); **F01N 2470/24** (2013.01 - EP US)

Citation (applicant)  
JP 2010255611 A 20101111 - TOYOTA MOTOR CORP, et al

Citation (search report)  
• [A] FR 2879652 A1 20060623 - RENAULT SAS [FR]  
• [A] DE 102006008782 A1 20070830 - ARVINMERITOR EMISSIONS TECH [DE]  
• [A] US 6220605 B1 20010424 - BECKER JR THEODORE H [US]

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Designated contracting state (EPC)  
AL 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 RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
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DOCDB simple family (application)  
**EP 13001125 A 20130306**; CN 201310073356 A 20130307; JP 2012276065 A 20121218; US 201313785785 A 20130305